

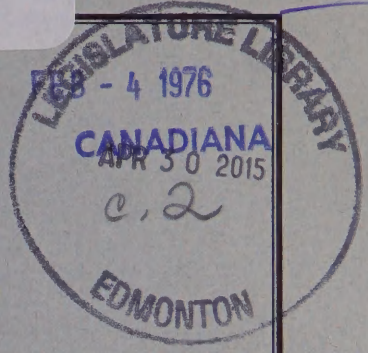
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ANNUAL REPORT

OF THE

Department of Public Health

INCLUDING

Vital Statistics Division

PROVINCE OF ALBERTA

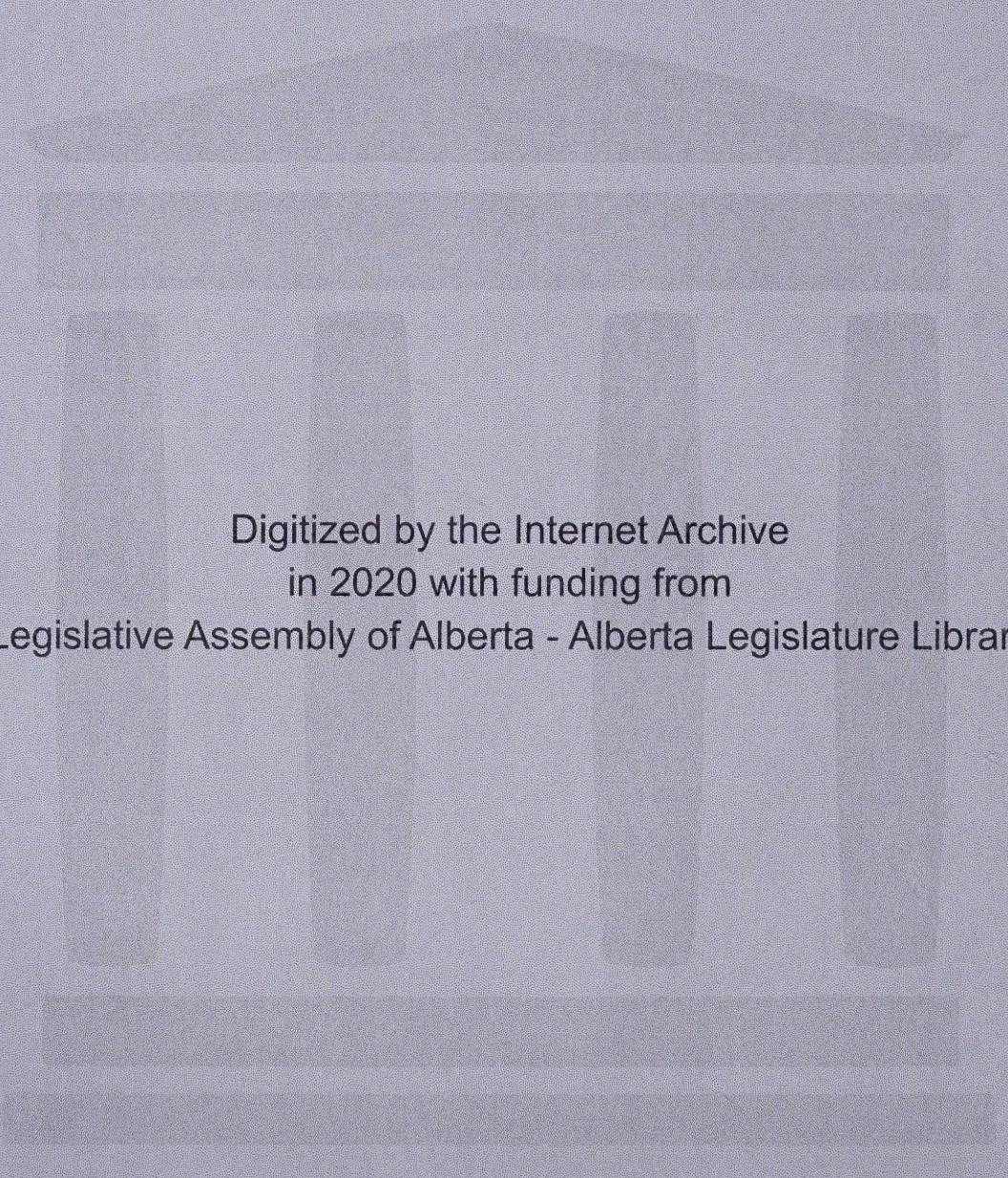
1961

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON, ALBERTA

Printed by L. S. WALL, Printer to the Queen's Most Excellent Majesty

1963



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ANNUAL REPORT

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Printed by L. S. WALL, Printer to the Queen's Most Excellent Majesty

1 9 6 3

November 30, 1962.

TO HIS HONOUR,

J. PERCY PAGE,

Lieutenant Governor of the Province of Alberta.

Sir:

I have the honour to transmit herewith, the Annual Report of the Department of Public Health for the year 1961.

I have the honour to be, Sir,

Your obedient Servant,

J. DONOVAN ROSS, B.A., M.D.,
Minister of Health.

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November 30, 1962.

TO THE HONOURABLE DR. J. DONOVAN ROSS,
Minister of Health,
Administration Building, Edmonton, Alberta.

Sir:

I have the honour to submit herewith, the Forty-Third Annual Report of the Department of Public Health.

I have the honour to be, Sir,

Your obedient Servant,

M. G. McCALLUM, B.Sc., M.D., D.P.H.,
Deputy Minister of Health.

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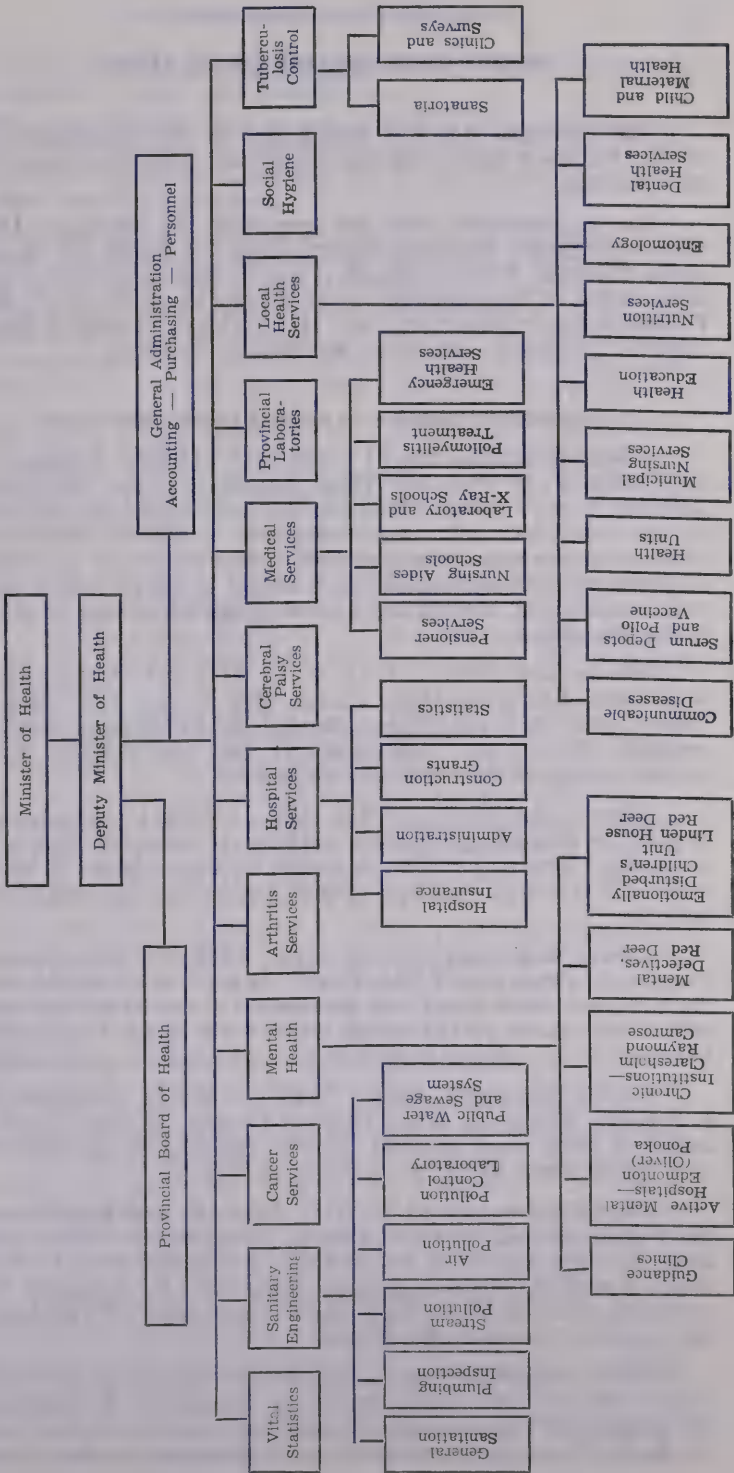
Vital Statistics (See separate Contents Page)

Note: See separate publication covering Annual Report of the Hospitals Division for the year 1961.

Department of Public Health—Alberta

DIVISIONAL ORGANIZATION CHART

January - 1961



PROVINCIAL BOARD OF HEALTH

The Provincial Board of Health met on three occasions during 1961. This report includes the more significant items considered during these meetings.

Dr. A. Somerville who had combined the offices of Deputy Minister of Health, Provincial Medical Officer of Health and Chairman of the Provincial Board of Health retired in September, 1961. He was succeeded in all these posts by Dr. M. G. McCallum. Dr. R. D. Stuart, Provincial Bacteriologist and Mr. H. L. Hogge, Provincial Sanitary Engineer continued as the other members of the Board.

Regulations Passed or Amended During The Year

Alberta Regulation 262/61 (O.C. 1327-61) New Regulations for the Control of Air Pollution. These regulations require that plans be submitted to the Provincial Board for approval before the construction of pipe lines which will contain dangerous or noxious materials and before the construction of plants likely to contribute to air pollution. In addition, standards are established in respect of the amount of smoke, dust, and odorous, noxious and toxic materials which may be released to the atmosphere.

Alberta Regulation 263/61 (O.C. 1328-61) Amendments to Regulations Respecting Dairy Farms, Milk Plants, Fluid Milk and Table Cream. These amendments clarified the definitions of some plant processes, defined some new classes of milk and generally brought several sections of the regulations up to date.

Alberta Regulation 279/61 (O.C. 1462-61) Amendment to Regulations Respecting Nuisances and General Sanitation. This amendment added some new sections to control the establishment of feed lots within 1,500 feet of dwellings, schools, restaurants and food handling premises.

Alberta Regulation 399/61 (O.C. 1879-61) Amendments to Regulations Governing Trailer Coach Parks. The principal changes made by these amendments were the removal of several sections dealing with trailer coaches parked outside trailer coach parks. These will now be subject to the ordinary sanitary regulations similar to other dwellings.

Alberta Regulation 400/61 (O.C. 1880-61) Amendments to Regulations Respecting Waste Disposal Grounds. A new section was added to bring waste disposal grounds operated by any person or corporation within the scope of the regulations.

Alberta Regulation 492/61 (O.C. 2028-61) New Regulations for the Control of Communicable Disease. These replace former regulations. The new regulations are the result of a careful study by a committee of medical officers co-operating closely with the Provincial Board of Health. The regulations make use of recent scientific knowledge in the control of communicable disease.

Alberta Regulation 130/61, 161/61 and 378/61 (O.C.'s 648-61, 822-61 and 1878-61) Amendments to Regulations Respecting the Fluoridation of Water Supplies, Amendments to Regulations Governing Barber Shops and Amendments to Regulations Relating to Bake-

shops. In each case the changes did not significantly alter the provisions but were primarily of an administrative nature.

Alberta Regulation 188/61 (O.C. 995-61) Dental Regulations rescinded. The Certified Dental Mechanics Act passed by the 1961 Session of the Legislature superseded the Board's Dental Regulations which were therefore rescinded.

During the year a few cases of persons who were suffering from tuberculosis in an infectious form and who were refusing treatment were reported to the Board. After proper investigation in each instance the Board issued four orders covering removal of these persons to hospitals and sanatoria for treatment under the provisions of the Communicable Disease Regulations. The number of such orders follows the trend of recent years — 2 in 1957, 4 in 1958, 6 in 1959 and 2 in 1960.

Eight persons were appointed Executive Officers of the Provincial Board of Health during 1961. There were nine cancellations and at the year's end 42 authorizations were in effect. Persons holding these appointments are employees of the Provincial Department of Health or are Municipal Nurses.

Eighty-six nurses in public health work were issued authorizations by the Provincial Board of Health in 1961 certifying them to be capable of performing inoculations and vaccinations in accordance with Section 41 of The Public Health Act. At the year's end 169 authorizations were in effect compared with 166 at the end of the preceding year.

A draft of proposed changes to the Plumbing Regulations were considered during the year. At the year's end certain desirable changes to the proposals were being considered so that further action may be taken on the proposed new regulations at the earliest possible date.

The Board considered proposed Regulations Respecting Nurseries and Institutions in 1961. Some of the proposals were found to be unacceptable as regulations. The entire question of action in regard to these proposals was still under review at the year's end.

The Board continued its interest in matters connected with stream pollution and air pollution. A survey of air pollution was carried out in the Gold Bar Subdivision in Edmonton. The Division of Sanitary Engineering received co-operation from the City of Edmonton Health Department to carry out this survey.

Many other matters related to the health of the people of the province received attention during the year. Some of these were disposal of liquid wastes into deep porous formations, distribution of polio vaccine, labelling of mattresses and upholstery, veterinary inspection of meat and sanitary control of touring midways. In these and other matters the Board gave guidance and assistance to the various divisions of the department and to Local Boards of Health so that activities could be correlated into a broad program designed to improve the health of the people of the province.

LEGISLATION PASSED DURING THE YEAR

The Chiropractic Act Amendment Act (Chapter 12)

This Act amends The Chiropractic Act, being chapter 41 of the Revised Statutes.

Section 2 was amended to revise the definition of "chiropractic" to mean the philosophy, science and art of analyzing, and of adjusting

the articulations of the human spinal column and other articulations incidental thereto.

Section 4 was amended to remove the provisions relating to non-participating membership. A new subsection (4a) was added providing that a person who because of a tenet of his religious faith is precluded from accepting mandatory membership in an association, may with the approval of the Minister practice chiropractic without becoming a member of the Association but such a person is otherwise subject to the provisions of the Act.

Section 7 was amended by striking out the provisions relating to qualifications as these matters will be governed by the appraisal board established under section 10 of the Act.

Section 8 was amended to give a member of the Association a right of appeal to a judge of the Supreme Court from a disciplinary decision of the council under section 8.

Section 10 was revised to give the Chiropractic Appraisal Board jurisdiction over the educational qualifications of applicants for registration.

Section 11 was amended. This amendment together with the repeal of subsection (5) of section 10 and clause (b) of subsection (2) of section 14 will make the right to practise chiropractic dependent upon membership in the Association with the exceptions as noted in Section 4.

Sections 28 and 29 which provide for a discipline committee were repealed. Discipline will be governed directly by the council of the Association.

This Act came into force on the 12th day of April, 1961.

The Dental Association Act Amendment Act (Chapter 22)

This Act amends The Dental Association Act, being chapter 82 of the Revised Statutes.

A new section 1a was added setting out a definition of "dentistry" for the purposes of the Act.

Section 4 was amended to remove the limitation on the value of real estate held by the Dental Association.

Section 9 was amended to authorize the Board to appoint an assistant secretary-treasurer-registrar and to delegate to him such functions as the board considers desirable.

Section 11 was amended to authorize the board of directors to carry on business by means of resolutions signed by all the directors without the necessity of calling a meeting of the Board.

Section 13 was amended to remove the maximum fee that may be charged annually to each member of the Association and to require that any by-law fixing a fee has to be confirmed by at least eighty per cent of the members of the Association present at a regular meeting of the Association.

Section 17 was amended by striking out subsection (3).

A new section 23a was added authorizing the establishment and maintenance of an Educational Register.

Section 37 was amended to strike out the words "for hire, gain or hope of reward" so that an unqualified person is guilty of practising dentistry even though no charge is made. In addition a minimum fine of \$250 is provided for a second offence and a mandatory gaol term of two to six months is provided for a third and subsequent offence.

Section 38 was repealed.

Section 39 was amended by adding a subsection (2) stating that the section does not apply to prohibit a dentist from employing a dental hygienist, a dental auxiliary or a dental technician to perform any duties that such person is qualified and permitted by law to perform.

Section 40 was amended by striking out clause (b) and by adding a new subsection that permits a person to perform dentistry on himself or members of his immediate family or in an isolated case of vital necessity, on another person, without being guilty of an offence under the Act.

Section 48 was amended to give the board authority to impose a fine in addition to or in lieu of suspension of a member found guilty of misconduct.

A new section 53a was added to give the discipline committee power to suspend a member in certain cases. This power is similar to that exercised by the discipline committee of the medical profession.

This Act came into force on the 12th day of April, 1961.

The Dental Technicians Act (Chapter 23)

This new Act cited as "The Dental Technicians Act" provides for the appointment of a Dental Technicians Board composed of the Director of Dental Public Health of the Department of Public Health and four other members appointed by the Minister. This Board is authorized to prescribe qualifications, set examinations and to license persons as dental technicians. A registered dental technician may, on the prescription of a dentist, make, alter or repair any prosthetic denture, bridge, appliance, etc., and may without the prescription of a dentist repair any prosthetic denture, bridge, appliance, etc. The Board is authorized to establish rules of conduct for dental technicians, to investigate complaints of misconduct and to cancel or suspend the registration of any person found by the Board to be guilty of misconduct.

This Act came into force on the 12th day of April, 1961.

The Hospitalization and Treatment Services Act Amendment Act (Chapter 35)

This Act amends The Hospitalization and Treatment Services Act, to bring it into line with more recent legislation relating to hospitalization. The name of the Act is changed to Treatment Services Act and all references to hospitalization are removed as this is now covered by the new Alberta Hospitals Act.

Section 4 was amended to authorize the Minister to provide for the costs of treatment services to persons in receipt of an allowance

under Part III of The Public Welfare Act or in receipt of support as a ward of the Government under The Child Welfare Act.

Section 6 authorizing the Minister to enter into agreements with approved hospitals for the care of persons under the Act was repealed.

Sections 9 and 11 were also repealed.

This Act came into force on the 30th day of March, 1961.

The Alberta Hospitals Act (Chapter 36)

This new Act cited as "The Alberta Hospitals Act" repeals and replaces The Hospitals Act, being chapter 147 of the Revised Statutes, The Municipal Hospitals Act, being chapter 216 of the Revised Statutes, The Hospitalization Benefits Act, 1959, being chapter 31 of the Statutes of Alberta, 1959, and The Auxiliary Hospitals Act, being chapter 7 of the Statutes of Alberta, 1960. The new Act combines in one Act the various matters relating to hospitals previously dealt with in the repealed Acts. The new Act is divided into three Parts: Part I deals with establishment and organization of municipal and auxiliary hospitals; Part II deals with the standards to be maintained and the management of approved hospitals; Part III deals with hospitalization benefits and payments to hospitals.

This Act came into force on the 1st day of April, 1961.

An Act to Repeal Certain Acts of the Legislature (No. 2) (Chapter 37)

This Act repealed The Hospitalization of City Residents Act, being chapter 145 of the Revised Statutes, and The Maternity Hospitalization Act, being chapter 196 of the Revised Statutes, as the matters in these Acts provided for, are covered by The Alberta Hospitals Act. This Act also repeals thirteen old Acts incorporating hospitals in various areas of the Province. These Acts were no longer in use as the hospitals which they established are now operating under and governed by The Alberta Hospitals Act.

This Act came into force on the 12th day of April, 1961.

The Public Health Act Amendment Act (Chapter 61)

This Act amends The Public Health Act, being chapter 255 of the Revised Statutes.

By an amendment to section 7, authority is given to the Provincial Board of Health to control the location where plants causing air or water pollution may be built. Authority is also given to the Board to regulate hypnotism.

This Act came into force on the 12th day of April, 1961.

DEPARTMENT OF PUBLIC HEALTH
REVENUE AND EXPENDITURE FOR FISCAL YEAR ENDING MARCH 31, 1962

	Salaries	Expenses	Revenue
2401 Administration—General	\$ 15,500.00	\$ 1,963.89	\$
2402 Administration—General	116,279.50	10,004.49	12,347.35
2405 Vital Statistics	85,172.86	19,663.43	143,057.69
2408 Professional Acts .....	.....	1,181.36	.....
2409 Civil Service Nurse	9,303.31	1,080.09	.....
2410 Alcoholism Foundation of Alberta .....	.....	270,000.00	.....
2411 Health Services—Extension Program	2,650.00	1,390,521.87	1,029,090.65
2412 Hospital Construction Grant .....	.....	3,986,173.93	907,237.47
2453 Hospitals Division	168,963.97	48,092,682.42	19,542,411.21
2414 Communicable Diseases	10,676.90	114,810.47	.....
2415 Health Units and Grants for Public Health Services	14,324.03	1,219,293.43	600,901.65
2416 Public Health Nursing	20,202.79	138,001.41	40,550.84
2417 Dental Health Services	6,996.71	2,667.89	.....
2418 Public Health Education	17,458.70	8,377.41	.....
2419 Entomology and Vector Control	20,724.51	2,750.16	.....
2420 Poison Control Services .....	.....	5,216.22	.....
2421 Public Health Laboratories .....	.....	598,000.00	.....
2422 Social Hygiene	89,843.13	14,395.74	52,686.82
2425 Sanitary Engineering	126,953.70	52,184.66	100,704.40
2430 Medical Services	42,475.21	1,678,792.02	.....
2433 Insulin and Other Special Drugs .....	.....	29,345.44	8,461.25
2434 Emergency Air Ambulance Services .....	.....	13,728.12	.....
2436 Nursing Aides	99,117.31	259,801.39	389,620.82
2437 Laboratory and X-Ray School	20,675.09	7,043.09	23,928.16
2440 Poliomyelitis .....	.....	102,975.10	.....
2441 Medical Rehabilitation Services .....	.....	12,483.03	.....
2442 Cerebral Palsy Clinics	95,480.27	24,313.75	67,786.61
2443 Arthritis Services	12,590.00	2,996.80	.....
2450 Cancer Services	321,858.97	719,103.43	241,279.91
DIVISION OF TUBERCULOSIS CONTROL			
2455 Director's Office and Clinics	85,092.04	83,966.86	31,342.73
2456 Aberhart Memorial Sanatorium, Edmonton	876,373.00	186,484.46	184,149.99
2457 Baker Memorial Sanatorium, Calgary	863,688.84	180,332.78	363,977.62
DIVISION OF MENTAL HEALTH			
2460 Director's Office and Guidance Clinics	272,403.98	25,015.61	100,000.00
2463 } Provincial Mental Hospital, Ponoka	1,987,374.15	593,313.52	613,896.20
2464 } .....	.....	.....	.....
2465 } Provincial Mental Institute, Edmonton	2,171,511.26	504,049.36	578,550.84
2466 } .....	.....	.....	.....
2467 } Rosehaven, Camrose	658,170.46	112,740.64	446,061.06
2468 } Provincial Auxiliary Mental Hospital, Claresholm	110,856.48	47,628.72	30,071.71
2469 } Provincial Auxiliary Mental Hospital, Raymond	117,466.66	33,288.26	31,244.76
2472 } Emotionally Disturbed Children's Program	28,380.43	38,609.23	13,871.99
2475 } Provincial Training School, Red Deer	1,467,646.30	296,096.06	271,764.05
2477 } Deerhome, Red Deer	1,410,600.66	334,816.48	253,901.34
	<u>\$11,346,811.20</u>	<u>\$61,195,843.02</u>	<u>\$26,078,897.12</u>
Total Expenditure—Public Health Department			\$72,542,654.22
Less Public Health Revenue			26,078,897.12
Net Expenditure—Department of Public Health			<u>\$46,463,757.10</u>

Vital Statistics

The Vital registrations during the year were as follows:

Births	38,914
Marriages	10,474
Deaths	8,863

The population for 1961 was 1,331,944 and, therefore, the following rates have been recorded:

Year	No. of Births	Birth Rate	No. of Marriages	Marriage Rate	No. of Deaths	Death Rate
1956	34,951	31.1	9,965	8.9	7,786	6.9
1957	35,719	30.8	10,117	8.7	8,255	7.1
1958	36,842	30.7	10,186	8.5	8,237	6.9
1959	38,080	30.6	10,402	8.4	8,481	6.8
1960	39,009	30.4	10,482	8.2	8,888	6.9
1961	38,914	29.2	10,474	7.9	8,863	6.7

On the whole these figures are good. The birth rate is down slightly and the death rate is the lowest it has been for a number of years. The natural increase (excess of births over deaths) was 30,051.

Alcoholism

The Alcoholism Foundation of Alberta is a voluntary society supported during the fiscal year 1961-62 by the Province of Alberta by a grant of \$250,000.00. This was approximately 84% of their income. The Foundation recognizes alcoholism as a treatable illness and a public health responsibility and is, therefore, concerned with problem drinking. Its aim is to prevent problem drinking through education, treatment and research. In carrying out this program 936 persons were treated in 1961, of which 56% are reported as having achieved more or less recovery.

Sanitary Engineering

This Division is continuing to expand as in previous years. This is particularly true in the industrial field. The Air and Water Pollution Control section directed much of its time in controlling the pollution from new industrial plants, and assessing and reducing the pollution from various industrial operations. A two-day school on the Study of 'Atmospheric Pollution in the Vicinity of Gas Processing Plants' was conducted in November and was attended by 50 members of industrial and government organizations. Two mobile air pollution laboratories were operated continuously during the year and assistance was given to Imperial Oil Limited in evaluating the sulphur dioxide concentrations in the vicinity of an experimental sixty-five foot flare stack. Air pollution control measures were approved for two gas processing plants.

Smoke, carbon dioxide and hydrogen sulphide studies were also carried out.

Thirty-nine cities, towns and villages now have compulsory pasteurization by-laws. Seventy-two pasteurization plants are now in operation in the Province. The movement of milk over long distances for larger plants is presenting some problems in supervision.

There were approvals granted for eight public and seven semi-public swimming pools in the Province during 1961.

The continuation of the 1958-60 research study of the operation of sewage ponds in Alberta was continued in 1961. This was an assessment of the operation of the revised type of sewage ponds now being constructed in the Province. This revised design includes both the 'Anaerobic' and 'Aerobic' ponds.

Stream pollution studies have continued in the North Saskatchewan River. The new Brazeau Dam was completed during the year and release of water into the Saskatchewan River commenced at the end of January, 1961, thereby resulting in a significant increase in the volume of flow in the river subsequently, except for a short period

during freeze-up. This should bring some relief to pollution problems. There have been no major complaints regarding the pollution of the North Saskatchewan or Bow Rivers during the year.

Mental Health Services

The capacity of the various mental institutions and the number of patients as at December 31, 1961, is as follows:

	Capacity	Patients in
ACUTE MENTAL HOSPITALS		
P.M.H., Ponoka	1,272	1,174
P.M.I., Edmonton	1,416	1,456
CHRONIC MENTAL HOSPITALS		
Rosehaven, Camrose	510	502
P.A.M.H., Claresholm	112	108
P.A.M.H., Raymond	134	131
INSTITUTIONS FOR MENTAL DEFECTIVES		
P.T.S., Red Deer	792	718
Deerhome, Red Deer	1,020	830
Total	5,256	4,919

During the year 1961, Linden House, the unit for emotionally disturbed children, operated with success. Although the original bed capacity was 30 beds—(15 male, 15 female)—it was found inadvisable to operate at full capacity, and there was always a preponderance of male children in the unit.

Construction on three new dormitories—including an infirmary—was commenced at Claresholm, with completion expected in 1962. This would increase the bed-capacity at the Provincial Auxiliary Mental Hospital, Claresholm, by approximately 300 beds.

In the active treatment hospitals at Ponoka and Edmonton, the discharge rate of some 80 percent, plus, was maintained.

Some remodelling of the infirmary ward at the Provincial Training School, Red Deer, was planned for 1962, to enable the Training School to admit pediatric cases with mental deficiency and deformities.

Cancer Services

The cancer clinics in Edmonton, Calgary and Lethbridge have continued to operate at an adequate level. The new building at Calgary has been working very well. Thought has been given to development of a new cancer clinic building in Edmonton. The load at the clinics has been increasing steadily at a faster rate than the increase of population.

Health Education

During 1961 the Health Education program operated at a somewhat reduced capacity due to the Director being on leave of absence. However, the routine work of the Division was carried on as usual by the balance of the staff. The distribution of literature and the supplying of films from the library, as well as the distribution of material to the press and to radio stations has continued at the usual level.

Because of Mr. Evoy's absence during 1961, the visits to schools, health units, etc. were discontinued and the stimulating effect of these

visits has been missed. Also, because of his absence in 1961, the usual report of the work of the Division is not available for this Annual Report.

Dental Health

The Dental Health Service has continued to develop satisfactorily with Dr. C. W. B. McPhail as Director of the prophylactic program. There were 20 students enrolled in the two-year course for Dental Auxiliaries at the University of Alberta following the passing of The Dental Auxiliaries Act. By the summer of 1963 these individuals will be available to function in the Health Unit Service under the guidance of a dentist.

Child and Maternal Health

As a result of the establishment of this service more stress is being placed on prenatal teaching, planning of prenatal and postnatal visiting and a better liaison between hospitals and public health personnel. On occasions, hospitals are requesting the services of the health unit staff as consultants.

Professional Acts

In regard to the matter of Professional Acts, the Minister of Health is charged with the administration of the following:

- The Podiatry Professions Act
- The Chiropractic Act
- The Dental Association Act
- The Medical Profession Act
- The Naturopathy Act
- The Optometry Act
- The Chartered Physiotherapists Act
- The Veterinary Surgeons Act
- The Psychologists' Association Act
- The Dental Technicians' Act

In regard to The Podiatry Professions Act and The Optometry Act, Boards of Examiners have been established by the Department, in order to license all members who desire to practise in Alberta. Pursuant to The Chiropractic Act and The Naturopathy Act, Appraisal Boards have been formed by the Department in order that members wishing to practise in Alberta may be "listed" through the Provincial Government. The Dental Technicians Act is included in a special report prepared by the Director of Dental Health Services. In the case of the other Professional Acts, membership is obtained through the various Associations established under each respective Act.

During the calendar year 1961, the Chiropractic Appraisal Board approved twelve applications and rejected one. The Board of Examiners, pertaining to The Optometry Act, issued six licenses and no one was rejected. Pursuant to The Podiatry Professions Act, the Board of Examiners approved one application and no one was rejected. No applications were reviewed pursuant to The Naturopathy Act.

Respectfully submitted,

M. G. McCALLUM, B.Sc., M.D., D.P.H.,
Deputy Minister of Health.

DIVISION OF LOCAL HEALTH SERVICES

E. S. O. Smith, M.A., M.B., B.Chir., D.P.H., D.I.H., Director

The Division of Local Health Services is the Department's principal link with local Boards of Health, and consists of the following branches with a director or consultant in charge of each:

- (1) Communicable Diseases
- (2) Health Units
- (3) Public Health Nursing
- (4) Maternal and Child Health
- (5) Dental Health
- (6) Health Education
- (7) Nutrition Services
- (8) Entomology and Vector Control
- (9) Poison Control Service

Some of these branches are very closely linked. Direction of the Communicable Diseases branch and of the Health Units branch, for example, is an individual responsibility of the Director of Local Health Services, while direction of the Poison Control Service is undertaken by the Director of Entomology and Vector Control. The Nursing Consultant in Maternal and Child Health serves within the administrative framework of the Public Health Nursing branch, and the Public Health Nutritionist serves within the administrative framework of the Health Education branch.

The directors or consultants of these branches exchange information and collaborate constantly with other divisions of the Department, with other departments of the Provincial Government (Public Welfare, Education, Agriculture), with the corresponding divisions of the Department of National Health and Welfare, with the University of Alberta, and with many professional and lay organizations concerned directly or indirectly with public health.

Five members of the Division were privileged to attend the 52nd annual meeting of the Canadian Public Health Association in Regina from the 6th to the 8th June 1961, at which the Director of Local Health Services presented a paper on "The Effectiveness of Salk Vaccine in Alberta" to the Epidemiology Section.

The Director of Local Health Services attended a meeting of the Subcommittee on Statistics of the Maternal and Child Health Advisory Committee in Ottawa on the 11th September 1961. In the absence of a Director of Health Education he also attended the 8th Biennial Federal-Provincial Conference on Health Education in Ottawa from the 27th to the 29th September 1961.

The reports which follow describe in more detail the functions of the various branches of the Division, and their activities during the year.

COMMUNICABLE DISEASES

E. S. O. Smith, M.A., M.B., B.Chir., D.P.H., D.I.H., Director

The functions of the Communicable Disease Branch of the Division of Local Health Services include:

- (1) The collection, preparation and transmission of information, and the compilation and evaluation of statistics, concerning the morbidity and mortality of communicable diseases;
- (2) The provision of consultant services to local health authorities on matters relating to the prevention and control of communicable diseases;
- (3) The direction or application of control measures against communicable diseases in areas administered by the Provincial Government which are outside the jurisdiction of Health Units;
- (4) The interpretation and distribution of Communicable Disease Regulations;
- (5) The distribution of immunizing antigens and sera, and supervision of the utilization of those in limited supply;
- (6) The appraisal of immunization programs, and the publication of specific recommendations in relation to them.

COMMUNICABLE DISEASE REGULATIONS

Following upon a complete review of control measures and the submission of recommendations by a committee consisting of Dr. G. H. Ball of the City of Edmonton Health Department, Dr. C. G. More of the Red Deer Health Unit, and Dr. D. Stewart of the Sturgeon Health Unit, a new set of Communicable Disease Regulations was approved by the Provincial Board of Health, and was subsequently promulgated by Order in Council at the end of December.

REPORTING OF NOTIFIABLE DISEASES

Considerable time and effort were devoted during the year to developing, in collaboration with the Dominion Bureau of Statistics, an improved system for the reporting of notifiable diseases. Preparations were made to introduce the new reporting system at the same time as the new Communicable Disease Regulations.

PARALYTIC POLIOMYELITIS

After two consecutive years of increasing incidence, 1961 was characterized by a gratifying reduction in morbidity from poliomyelitis, and a concomitant decrease in mortality. There were 26 reported cases of paralytic poliomyelitis during the year, and two deaths (including one of a patient whose illness began in 1960). The corresponding figures for the two preceding years were 84 cases with 13 deaths in 1959, and 201 cases with 11 deaths in 1960. Type 1 poliovirus was identified in four cases, and type 3 in six cases.

Table 1 shows the age distribution and vaccination status of 1961 cases and deaths. Children under 10 years of age accounted for 46.2% of the cases, while the 20 to 39 years age group accounted for 23.1%. Exactly one half of the cases occurred in persons who had never received any Salk vaccine.

TABLE 1
AGE DISTRIBUTION AND VACCINATION STATUS OF PARALYTIC POLIOMYELITIS CASES AND DEATHS REPORTED IN 1961

Age Group	Number of Cases	No. of Doses of Salk Vaccine					Number of Deaths	No. of Doses of Salk Vaccine					
		0	1	2	3	4+		0	1	2	3	4+	
Under 1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1-4	6	2	.....	.....	.....	3	1	.....	.....	.....	.....	.....	.....
5-9	5	1	.....	.....	.....	2	2	.....	.....	.....	.....	.....	.....
10-14	3	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....
15-19	2	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
20-39	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
40-59	3	2	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
60 & over	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	26	13	.....	1	9	3	2	.....	.....	1	1	.....	.....

*1961 death of a 1960 case.

VIRAL OR ASEPTIC MENINGITIS

There were 84 reported cases of viral or aseptic meningitis during 1961, compared with 32 in 1959 and 75 in 1960. Coxsackie viruses were identified in 33 cases (type A23 in six, type B2 in three, type B4 in twelve and type B5 in twelve), while ECHO viruses were identified in seven cases (type 6 in five, type 11 in one and type 18 in one); the patient from whom ECHO virus type 18 was isolated was among the twelve who yielded Coxsackie virus Type B4. The illness associated with ECHO virus type 11 was associated with transient paralysis of an arm and a leg, but was followed by complete recovery. In no case was a poliovirus incriminated. Table 2 shows the age distribution and vaccination status of the remaining 45 cases whose aetiology was unspecified.

TABLE 2
AGE DISTRIBUTION AND VACCINATION STATUS OF VIRAL OR ASEPTIC MENINGITIS CASES OF UNSPECIFIED AETIOLOGY REPORTED IN 1961

Age Group	Number of Cases	No. of Doses of Salk Vaccine				
		0	1	2	3	4+
Under 1	3	2	.....	.....	1	.....
1 - 4	4	.....	.....	1	3	.....
5 - 9	8	1	.....	.....	5	2
10 - 14	4	.....	.....	.....	1	3
15 - 19	3	.....	.....	.....	1	2
20 - 39	19	4	1	1	11	2
40 - 59	4	4	.....	.....	.....	.....
60 and over	.....	.....	.....	.....	.....	.....
Total	45	11	1	2	22	9

TYPHOID FEVER

There were 16 cases of typhoid fever reported during 1961, compared with 13 cases in 1959 and three in 1960. There was no fatality in any of these years. Six of these cases were related to an outbreak in Edmonton which was attributed to the ingestion of home-made cheese. The occurrence of so many cases in a single year serves as a reminder that the infection is still endemic in Alberta, and emphasizes the need for rigid surveillance of carriers.

DIPHTHERIA

There were 19 cases of diphtheria notified in 1961, the highest number since 1957; however, there was no fatality. The corresponding figures for the two preceding years were 10 cases with no fatality in 1959, and 12 cases with one death in 1960. The fact that this eminently preventable disease has shown an increase in incidence for the second successive year is a tragic reflection of the apathy towards immunization which is evident among certain individuals and groups, and suggests the desirability of a more active health education program.

MEASLES

The number of measles cases reported during the year was 6,309, compared with 3,956 cases in 1959 and 9,279 cases in 1960. The number of measles deaths was four, compared with three in 1959 and six in 1960. Measles thus continues to be one of the most prevalent diseases of childhood, and the fact that it can be followed by serious complications, or even prove lethal, leads one to welcome the progress which has been made in the development of a vaccine, and to hope that a safe and effective antigen may soon be available for general use.

STREPTOCOCCAL INFECTIONS

The number of notified cases of scarlet fever and streptococcal sore throat in 1961 was 1,673, which compared very favourably with 5,132 cases in 1959 and 4,131 cases in 1960. The number of deaths was two, compared with five in 1959 and one in 1960.

INFECTIOUS HEPATITIS

The number of cases of infectious hepatitis reported during the year was 1,006, compared with 527 in 1959 and 690 in 1960. The number of deaths from infectious hepatitis was ten, compared with five in 1959 and nine in 1960. Although it is only since the beginning of 1959 that Medical Officers of Health have been asked to report this disease, the steadily rising demand for immune serum globulin for the protection of contacts suggests very strongly that the figures reflect a real increase in incidence rather than merely a gradual improvement in the standard of notification.

DISTRIBUTION OF BIOLOGICALS

1961 was the first full year of operation for the plan to distribute biologicals exclusively through Health Units and City Health Departments. With the continued co-operation of Medical Officers of Health, wastage due to overstocking has been virtually eliminated. Not only is

the new arrangement much more efficient, but it has proved that the high price formerly paid for the privilege of returning outdated biologicals is unjustified. The reduction in expenditure on biologicals from approximately \$264,000.00 in 1959 to approximately \$223,000.00 in 1960 was fully maintained during 1961, when the cost amounted to slightly less than \$153,000.00.

TABLE 3
NUMBER OF CASES OF COMMUNICABLE DISEASES REPORTED
IN THE YEARS 1960 AND 1961

	1960	1961
Brucellosis .....	.....	2
Diarrhoea of the newborn	6	.....
Diphtheria	12	19
Dysentery:		
(a) Amoebic .....	.....	.....
(b) Bacillary	153	115
(c) Unspecified	203	62
Encephalitis, infectious (arthropod-borne) .....	.....	1
Food poisoning:		
(a) Staphylococcus intoxication .....	.....	5
(b) Salmonella infections	60	74
(c) Unspecified	6	8
Hepatitis, infectious	690	1,006
Leprosy	2	.....
Measles	9,279	6,309
Meningitis, viral or aseptic:		
(a) Due to poliovirus	17	.....
(b) Due to Coxsackie	8	*33
(c) Due to ECHO virus	3	*7
(d) Other and unspecified	47	45
Meningococcal infections .....	.....	1
Paratyphoid fever	11	3
Pemphigus neonatorum .....	.....	.....
Pertussis	580	315
Poliomyelitis, paralytic	201	26
Psittacosis .....	.....	6
Rocky Mountain spotted fever	1	.....
Rubella	955	1,118
Scarlet fever and streptococcal sore throat	4,131	1,673
Smallpox .....	|	.....
Tetanus .....	.....	1
Tuberculosis:		
(a) Pulmonary	417	305
(b) Other and unspecified	96	97
Tularaemia	2	1
Typhoid fever	3	16

* Includes one case of simultaneous infection with Coxsackie virus and ECHO virus.

TABLE 4
DEATHS ASCRIBED TO COMMUNICABLE DISEASES FOR THE YEARS 1960 AND 1961

	1960		1961	
	Total Deaths	Rate per 100,000 of population	Total Deaths	Rate per 100,000 of population
Diarrhoea of the newborn	8	0.6	5	0.4
Diphtheria	1	0.1	0	0.0
Dysentery	4	0.3	3	0.2
Hepatitis, infectious	9	0.7	10	0.8
Measles	6	0.5	4	0.3
Meningococcal infections	1	0.1	1	0.1
Paratyphoid fever	0	0.0	0	0.0
Pertussis	3	0.2	1	0.1
Poliomyelitis, paralytic	11	0.9	2	0.2
Scarlet fever and streptococcal sore throat	1	0.1	2	0.2
Smallpox	0	0.0	0	0.0
Tuberculosis:				
(a) Pulmonary	27	2.1	27	2.0
(b) Other and unspecified	7	0.5	5	0.4
Typhoid	0	0.0	0	0.0
Population of Alberta in 1960	1,283,000		Population of Alberta in 1961	
			1,331,944	

TABLE 5: COMMUNICABLE DISEASE CASES REPORTED IN 1961 BY SEX, AGE AND PERIOD OF REPORTING (Continued)

	SEX		FOUR WEEKLY PERIODS												AGES					In Armed Forces	Age Not Stated	TOTAL				
	Male	Female	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	41-44	45-48	49-52	Under 1	1-4	5-9	10-14				15-19	20-39	40-59	60 and Over
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17				18	19	20	21	22	23
FOOD POISONING—SALMONELLA INFECTIONS																										
Edmonton	10	14	1	6	1	3	1	1	1	1	1	1	1	2	3	7	2	3	1	3	5	4	4	24		
Calgary	11	8	1	3	5	2	1	1	1	1	1	1	1	1	7	3	1	2	1	2	2	2	2	19		
Lethbridge	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2		
Medicine Hat	19	10	4	3	1	6	3	2	1	1	1	1	1	6	5	5	4	2	2	5	1	1	5	29		
Rural	42	32	7	4	10	5	7	11	3	5	10	2	2	6	2	15	15	9	4	10	7	11	3	74		
FOOD POISONING—UNSPECIFIED																										
Edmonton	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Calgary	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Lethbridge	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Medicine Hat	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7		
Rural	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Total	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
INFECTIOUS HEPATITIS																										
Edmonton	2	4	4	4	23	33	25	8	10	16	20	17	16	29	6	1	8	3	1	2	86	17	3	6		
Calgary	108	112	6	1	4	2	1	1	1	1	1	1	1	2	15	1	4	4	3	4	4	1	2	220		
Lethbridge	9	8	4	6	1	1	1	1	1	1	1	1	1	1	3	1	1	2	2	3	3	1	1	15		
Medicine Hat	3	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7		
Red Deer	402	355	56	78	77	70	46	48	29	47	27	44	57	90	88	2	48	204	160	49	170	49	11	757		
Rural	524	482	61	89	104	105	72	56	39	64	47	62	74	121	112	3	57	271	198	66	264	66	15	1006		

MEASLES

Edmonton	650	556	9	39	20	17	10	8	10	10	12	19	134	342	556	34	409	708	28	3	3	1	1186
Calgary	418	395	86	112	183	154	123	101	32	10	1	1	1	1	38	10	91	673	38	1	1	813	
Lethbridge	306	288	267	80	43	25	29	9	2	3	2	14	56	33	2	7	141	427	16	1	1	594	
Medicine Hat	23	16	20	9	2	2	2	1	2	...	3	...	...	...	4	6	23	41	1	1	1	89
Red Deer	42	47	4	22	11	13	9	11	...	4	1	...	...	...	3	12	33	2	1	1	1	89
Rural	1866	1722	754	513	450	300	307	183	102	69	33	64	166	313	334	228	1107	1958	232	11	14	3588	
Total	3285	3024	1140	775	707	511	478	313	149	92	52	102	360	695	935	295	1806	3812	317	18	20	5	6309

MENINGITIS, VIRAL OR ASEPTIC--DUE TO COXSACKIE VIRUS

Edmonton	2	3	...	...	...	...	...	...	2	1	1	...	1	...	...	...	2	1	1	1	1	5
Calgary	8	8	...	...	...	...	...	...	2	3	5	4	2	...	...	...	1	4	1	4	1	16
Lethbridge	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Medicine Hat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
Red Deer	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
Rural	6	5	...	...	...	...	...	...	...	...	4	3	...	...	...	...	1	3	3	4	4	11
Total	16	17	...	...	...	...	...	...	1	6	4	11	7	3	...	...	4	9	8	1	9	33

MENINGITIS, VIRAL OR ASEPTIC--DUE TO ECHO VIRUS

Edmonton	2	2	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	4
Calgary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lethbridge	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medicine Hat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Red Deer	1	1	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	2
Rural	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	3	3	...	...	...	...	...	...	3	2	...	...	1	...	...	...	...	...	...	...	...	6

MENINGITIS, VIRAL OR ASEPTIC--OTHER AND UNSPECIFIED

Edmonton	2	3	2	...	...	...	...	...	2	1	1	1	...	...	...	...	1	1	1	2	1	5
Calgary	5	7	...	...	...	...	...	...	1	4	4	...	...	...	...	...	2	1	9	...	...	12
Lethbridge	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Medicine Hat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Red Deer	16	9	1	1	1	1	1	1	2	6	5	4	2	2	...	3	4	4	2	7	3	25
Rural	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	24	19	2	1	1	1	1	2	4	9	6	9	6	2	...	3	4	7	4	3	18	43

POLIOMYELITIS, PARALYTIC

Edmonton	4	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	5
Calgary	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
Lethbridge	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Medicine Hat	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Red Deer	8	7	6	1	1	2	1	1	1	1	4	4	2	2	2	1	15
Rural																	
Total	16	10	6	4	1	3	2	3	1	1	6	5	3	2	6	3	26

PSITTACOSIS AND ORNITHOSIS

Edmonton	1																1
Calgary	2	2	4	1													4
Lethbridge													1	1	1		4
Medicine Hat																	1
Red Deer		1															1
Rural																	1
Total	3	3	4	2							2	1			3		6

RUBELIA

Edmonton	43	49	11	7	4	9	3	3	1	2	7	13	12	13	24	34	16	4	1			92
Calgary	33	35	5	14	9	8	1	4	2	5	6	5	2	8	10	37	12	1	1			68
Lethbridge	20	22	12	4	1	2	1	1	1	1	2	2	3	4	14	17	6		1			42
Medicine Hat	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2							2
Red Deer	11	16	3	5	3	5	3	1	1	1	3	3	2	8	14	4						37
Rural	384	502	52	60	109	212	132	51	43	21	34	50	30	144	270	320	73	19	14	1		886
Total	492	626	84	85	129	238	152	59	49	25	43	73	49	178	334	412	108	24	16	1		1118

SCARLET FEVER AND STREPTOCOCCAL SORE THROAT

Edmonton	166	118	29	42	35	19	24	5	3	6	15	48	42	16	41	90	17	81	53	2		284
Calgary	81	114	24	23	71	14	18	12	2	7	10	11	8	3	23	117	47	8	2			195
Lethbridge	15	6	2	7	1	1	1	3	2	2	1	4	2	3	4	11	2	1	1	2		91
Medicine Hat	5	11	5	5	2	2	1	3	1	2	3	5	2	1	3	5	5	2	1			16
Red Deer	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2						16
Rural	521	633	109	116	88	78	140	346	21	31	31	40	70	63	201	377	287	146	92	22	1	1154
Total	789	884	169	194	197	113	183	367	26	31	29	54	102	83	273	602	358	233	149	26	1	13

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TABLE 6
INCIDENCE OF SOME OF THE MORE SERIOUS COMMUNICABLE DISEASES
FOR THE TEN-YEAR PERIOD, 1952 to 1961

Date	Population	Total Cases	Total Deaths	Mortality Rate per 100,000 of population
DIPHTHERIA				
1952	970,000	11	1	0.1
1953	1,002,000	28	3	0.3
1954	1,039,000	35	2	0.2
1955	1,066,000	10	1	0.1
1956	1,123,116	19	0	0.0
1957	1,160,000	39	6	0.5
1958	1,201,000	17	2	0.2
1959	1,243,000	10	0	0.0
1960	1,283,000	12	1	0.1
1961	1,331,944	19	0	0.0
MEASLES				
1952	970,000	3,515	7	0.7
1953	1,002,000	7,260	8	0.8
1954	1,039,000	3,769	6	0.6
1955	1,066,000	7,136	24	2.3
1956	1,123,116	2,047	2	0.2
1957	1,160,000	12,337	16	1.4
1958	1,201,000	3,383	4	0.3
1959	1,243,000	3,956	3	0.2
1960	1,283,000	9,279	6	0.5
1961	1,331,944	6,309	4	0.3
PERTUSSIS				
1952	970,000	1,105	8	0.8
1953	1,002,000	1,085	12	1.2
1954	1,039,000	842	7	0.7
1955	1,066,000	791	1	0.1
1956	1,123,116	547	3	0.3
1957	1,160,000	889	4	0.3
1958	1,201,000	684	2	0.2
1959	1,243,000	657	5	0.4
1960	1,283,000	580	3	0.2
1961	1,331,944	315	1	0.1
POLIOMYELITIS, PARALYTIC				
1952	970,000	582*	81	8.3
1953	1,002,000	1,052*	109	10.9
1954	1,039,000	221	31	3.0
1955	1,066,000	125	8	0.7
1956	1,123,116	39	3	0.3
1957	1,160,000	34	6	0.5
1958	1,201,000	22	1	0.1
1959	1,243,000	84	13	1.0
1960	1,283,000	201	11	0.9
1961	1,331,944	26	2	0.2
*Estimated figures based on the ratio of paralytic to non-paralytic cases in a survey of 1,437 cases of poliomyelitis in Alberta undertaken in 1954.				
SCARLET FEVER AND STREPTOCOCCAL SORE THROAT				
1952	970,000	3,829	2	0.2
1953	1,002,000	2,173	3	0.3
1954	1,039,000	1,363	0	0.0
1955	1,066,000	741	1	0.1
1956	1,123,116	642	0	0.0
1957	1,160,000	774	1	0.1
1958	1,201,000	1,062	0	0.0
1959	1,243,000	5,132	5	0.4
1960	1,283,000	4,131	1	0.1
1961	1,331,944	1,673	2	0.2
TYPHOID FEVER				
1952	970,000	16	2	0.2
1953	1,002,000	9	1	0.1
1954	1,039,000	5	1	0.1
1955	1,066,000	8	2	0.2
1956	1,123,116	22	1	0.1
1957	1,160,000	16	2	0.2
1958	1,201,000	6	0	0.0
1959	1,243,000	13	0	0.0
1960	1,283,000	3	0	0.0
1961	1,331,944	16	0	0.0

HEALTH UNITS

E. S. O. Smith, M.A., M.B., B.Chir., D.P.H., D.I.H., Director

The year 1961 saw the two oldest Health Units in Alberta celebrate their thirtieth birthdays, for it was in 1931 that the Foothills Health Unit and the Red Deer Health Unit first came into being.

The year 1961 also marked the tenth anniversary of the passing of the Health Unit Act, which greatly facilitated the establishment of health Units and stimulated their development throughout the Province.

A Health Unit is designed to provide rural communities with public health and preventive medical services comparable to those which are regularly provided in the major cities. The only kind of municipality which is ineligible for participation in a Health Unit is a city having a population in excess of 50,000.

The services normally offered by a Health Unit include the prevention and control of communicable diseases, the local control of tuberculosis, maternal and child health programs, school health services, health education and mental health programs, and a sanitary inspection service. Health Units may, and many do, also provide a dental service.

Except in the National Parks, each Health Unit is administered by a Board composed of councillors from the major contributing municipalities. To assist the Board in maintaining these services, the Department pays a grant for general health services at the per capita rate of \$1.45 less one cent for each thousand of population served, supplemented in the case of a Health Unit with low population density by an additional grant at the per capita rate of five cents for each person or part of a person by which the population density falls short of 5 per square mile. For dental services a Health Unit is eligible for a grant at one-fifth of the rate for general health services. In order to qualify for each of these grants, the Board must requisition its participating councils at not less than two-thirds of the per capita rate at which the Department contributes.

Each of the National Park Health Units is administered by an appointed Board. To enable the Board to complement the services which are supplied by the Federal Government, the Department pays a grant for general health services at the per capita rate of \$1.25, and a grant for dental services at one-fifth of this rate. The Health Unit Board in a National Park is not required to make any local requisition.

One new Health Unit was established during 1961, and was named the Big Country Health Unit. Based upon the Town of Hanna, the Health Unit brought to 13,789 residents within the geographical limits of the Special Areas the assurance of a more comprehensive and more continuous public health service than it had been possible to provide through the Municipal Nursing Services which previously existed at New Brigden, Youngstown and Sunnynook. Two sub-offices were established, one at Oyen, the other at Consort. Staff appointments by the end of the year included a full-time Medical Officer of Health, three full-time Public Health Nurses, a full-time Student Sanitary Inspector and a full-time Stenographer-Technician.

Annexation of the Town of Forest Lawn by the City of Calgary on the 30th December 1961 led the Forest Lawn Health Unit to suspend operations on that date after being established for only twenty-one months. The Health Unit's full-time employees (two Public Health Nurses and a Sanitary Inspector) were absorbed by the City of Calgary Health Department.

By the end of 1961, therefore, the number of operating Health Units in Alberta was still 24, although the population served by them had increased to 714,711, or more than 93% of Alberta's population outside of the cities of Edmonton and Calgary. The following is a list of these Health Units with the locations of their headquarters, the population figures upon which their grants were based for the fiscal year beginning the 1st April 1961, their approximate areas and their population densities:

Name of Health Unit	Headquarters	Population	Area in Square Miles	Population Density
Alberta East Central	Stettler	49,651	7,300	6.80
Athabasca	Athabasca	21,005	8,500	2.47
Banff National Park	Banff	3,069	2,600	1.18
Barons-Eureka	Coaldale	27,648	3,000	9.22
Big Country	Hanna	13,789	8,400	1.64
Chinook	Fort Macleod	23,724	4,000	5.99
City of Lethbridge	Lethbridge	33,706	12	2,809.
Drumheller	Drumheller	29,619	4,300	6.88
Edson	Edson	21,697	9,600	2.26
Foothills	High River	22,884	3,800	6.02
Grande Prairie	Grande Prairie	31,114	19,000	1.64
Jasper National Park	Jasper	2,322	4,200	0.55
Jasper Place	Jasper Place	27,414	6.3	4,351.
Leduc-Strathcona	Edmonton	27,904	1,600	17.55
Medicine Hat	Medicine Hat	46,475	10,000	4.65
Minburn-Vermillion	Vermillion	29,492	5,000	5.90
Mount View	Calgary	44,048	5,200	8.45
North Eastern Alberta	St. Paul	34,056	6,000	5.68
Peace River	Peace River	31,984	27,400	1.16
Red Deer	Red Deer	57,638	4,000	14.40
Stony Plain-Lac Ste. Anne	Stony Plain	20,739	4,300	4.82
Sturgeon	St. Albert	53,789	3,700	14.53
Vegreville	Vegreville	32,072	3,700	8.67
Wetoka	Wetaskiwin	28,872	3,100	9.31

The categories of staff required to implement Health Unit services, and the number of positions in each category established by the end of 1961, with corresponding figures for the five preceding years, are shown in the following table:

Category of Staff	1961	1960	1959	1958	1957	1956
Medical Officers	24	24	23	21	20	18
Dentists	8	7	3	3	3	1
Public Health Nurses	135	130	120	108	98	82
Sanitary Inspectors	34	32	31	28	26	24
Dental Assistants	7	6	3	3	3	1
Stenographer-Technicians	51	47	42	32	29	25
Secretary-Treasurers	24	24	23	21	20	18

Four new Medical Officers of Health were appointed to Health Units during the year, and arrangements were made for each one to undergo a course of orientation. One Medical Officer of Health, with the assistance of a professional training grant from the Department of National Health and Welfare, successfully completed the D.P.H. course at the University of Toronto.

In his capacity as a consultant to Health Unit Boards and Medical Officers of Health, the Director of Local Health Services made thirty-one visits during the year to fourteen different Health Units, usually in response to specific invitations.

The annual Health Unit Conference, to which each Health Unit was invited to send its Chairman or one of its Board Members, its Medical Officer of Health and its Senior Nurse, was held in the Department from the 30th October to the 1st November 1961. Discussion covered a wide range of subjects, and the resolutions which emerged were concerned with improving administration as well as services. These resolutions were duly submitted to the Minister for his consideration.

PUBLIC HEALTH NURSING

Dorothy Smith, B.Sc., M.P.H., R.N., Director

The Public Health Nursing Branch operates within the Local Health Services Division and its major function is assisting local health authorities in the organization and development of public health nursing programs.

The Public Health Nursing Director provides a consultant service to the Medical Officer of Health and Senior Nurse in each of the 24 health units, and assists local health authorities with the recruiting, placement and orientation of public health nurses, and with the organization of new nursing services.

The Public Health Nursing Director is also responsible for the administration and supervision of the Municipal Nursing Service, which provides a limited treatment service in addition to a preventive public health nursing program in rather isolated communities remote from medical aid. In-service education for Municipal Nurses in the form of a refresher course is conducted annually.

There appears to be a need for the extension of public health nursing services throughout the Province, but due to insufficient staff and lack of funds, services are continuing to be curtailed. As shown in Table 1, the necessity for the recruitment and education of public health nurses remains a problem.

TABLE 1

DISTRIBUTION OF NURSES ACTUALLY EMPLOYED IN HEALTH UNITS, MUNICIPAL NURSING SERVICE, AND CITY HEALTH DEPARTMENTS AT 31 DECEMBER 1961 IN RELATION TO QUALIFICATIONS

Service	With Public Health Preparation		Without Public Health Preparation		Total
	Number	Percentage	Number	Percentage	
Health Units	68	53	60	47	128
Municipal Nurses	5	33	10	67	*15
City of Edmonton	15	27	40	73	55
City of Calgary	46	96	2	4	48
Total	134	54	112	46	246

*This figure includes four municipal nurses outside of health units.

It will be observed that, of the 246 nurses employed in these particular agencies, 54% have had public health preparation, while in 1960, of 238 nurses employed by the same agencies, 57% were qualified public health nurses. The fact that only 12 of the 60 nurses without public health preparation, now working in health units, have indicated their desire for further preparation may be significant.

It is of interest that the City of Calgary Health Department has 96% of its nursing staff fully qualified for first level positions in public health nursing.

A generalized public health nursing program is provided in the health units and in the City of Calgary, while the City of Edmonton

provides a more specialized type of service. The trend in Edmonton is, however, towards a more generalized nursing program.

The basic public health nursing program carried on in health units is in the field of maternal and child health and includes health supervision of infants and pre-schoolers, school health services, communicable disease control, mental health, and health education with particular emphasis on nutrition and dental health. Some of the special services offered include, rheumatic fever prophylaxis, prenatal classes, audiometric screening, urinalyses including screening for phenylketonuria and haemoglobin estimations.

The public health nursing program in health units is the responsibility of a senior or supervising nurse who takes direction from the local Medical Officer of Health. Several Senior Nurses have been given the opportunity to take the post-graduate course in Administration and Supervision and although none from the health units have yet applied for the training grant there are a few potential candidates. Presently the supervising nurse from the City of Edmonton Health Department is on leave of absence taking the post graduate course in Administration and Supervision from McGill University.

Table 2 shows the distribution of public health nurses in relation to population, area and population density in health units and City Health Departments. It will be observed that the nurse-population ratio varies from 1:2322 to 1:7826 and that the area to be served varies from 6.3 square miles in Jasper Place to 27,000 square miles in Peace River. The population density in Peace River is 1.19 and in areas such as this many miles must be covered before the program can even be commenced. Loss of productive working time in these situations is minimized by the establishment of sub-offices.

MUNICIPAL NURSING SERVICE

The public health nursing program carried out by each of the 17 municipal nurses closely resembles that recommended by the health unit to which they are attached. All except four of the municipal nursing stations are located within health units and it is the plan to absorb these into either new or adjoining health units.

The establishment of the Wabasca Nursing Service in December of 1960 was a significant development in Alberta Health Service since it is the first nursing station under Provincial Government direction to offer nursing services to Indians as well as to Metis and whites. A reciprocal arrangement has been made with Indian and Northern Health Services, whereby their two nurses at Fort Chipewyan provide public health nursing care to all residents in that community. This arrangement is one of the first steps taken by Provincial Government towards accepting responsibility for Indian health.

It is believed that another progressive step has been made towards improved public health nursing care in Northern Alberta since the Provincial Government has agreed to provide limited nursing services to the isolated communities of Trout Lake, Sandy Lake and Chipewyan Lake. This service will be shared financially with Indian and Northern Health Services.

Plans are going forward to open a new Municipal Nursing Service in the area of Gift Lake and Atikameg, a community 60 miles north east of High Prairie. There is a great need for a resident nurse in this area since at certain times of the year the roads are impassable. Presently only limited medical care is provided by Indian and Northern Health Services to the 500 Indians and Metis who reside there.

It would appear from the foregoing that the Municipal Nursing Service is a growing service, however, this is not the case since seven nursing services were either closed or are in the process of closing this year. Most of the remaining Municipal Nursing Stations are in Northern Alberta. The policy of the Department of Health is to discontinue municipal nursing services in districts that can safely manage without a resident nurse. Details of the work performed by the municipal nurses during 1961 are shown in Tables 3 to 8 which follow this report. As these nursing stations close, the health units concerned usually appoint additional staff to maintain the recommended ratio of one nurse for each 5,000 population.

EDUCATIONAL PROGRAM FOR STAFF

An educational activity of particular interest during 1961 was a First Aid Instructors' Course given in April to all Municipal Nurses and representatives of the Victorian Order of Nurses and the Edmonton City Health Department. The assistance of the St. John Ambulance Association in planning and conducting the course is gratefully acknowledged.

Another educational activity which attracted nurses from all over Alberta was the course in Mental Health conducted jointly by the University School of Nursing and the Department of Extension, University of Alberta. These yearly continuing education courses for nurses offered by the University are made possible through federal professional training grants.

MISCELLANEOUS ACTIVITIES

The first conference for provincial Public Health Nursing Directors was held in Ottawa on February 20, 21 and 22, 1961, and the Alberta Public Health Nursing Director was privileged to attend. There was representation from all but one province and plans are going ahead for a second conference to be held early in 1963. The Federal Nursing Consultants who planned and participated in the conference are to be commended and in particular Miss Dorothy Percv, Chief Nursing Consultant, deserves our highest praise for assembling this group of nursing administrators for the first time.

ACKNOWLEDGMENT

Our grateful appreciation is extended to everyone who has contributed to the operation of the public health nursing service and in particular to the nurses who go well beyond the line of duty in accomplishing their tasks.

DEPARTMENT OF PUBLIC HEALTH

TABLE 2

DISTRIBUTION OF NURSES IN RELATION TO POPULATION, AREA AND POPULATION DENSITY IN HEALTH UNITS AND CITY HEALTH DEPARTMENTS ARRANGED IN ASCENDING ORDER OF POPULATION SIZE

Local Health Authority	Population	Area in Square Miles	Population Density	No. Health Unit Nurses			Nurse-Population Ratio
				Senior	Staff	Number of Municipal Nurses	
HEALTH UNITS							
Jasper National Park	2,322	4,200	0.55	..	1	....	1:2,322
Banff National Park	3,069	2,600	1.18	..	1	....	1:3,069
Big Country	13,881	8,800	1.65	..	3	....	1:4,627
Stony Plain-Lac Ste Anne	21,093	4,300	4.90	1	3	....	1:5,273
Athabasca	21,450	8,500	2.52	1	5	..	*1:2,383
Edson	22,285	9,600	2.32	1	3	..	*1:4,457
Foothills	23,078	3,800	6.07	1	3	1	*1:4,616
Chinook	24,334	4,000	6.08	..	4	....	1:6,083
Jasper Place	29,817	6.3	4,587	1	4	....	1:5,963
Barons-Eureka	27,643	3,000	9.21	1	5	....	1:4,607
Wetoka	29,593	3,100	9.54	..	5	....	1:5,919
Minburn-Vermilion	29,553	5,000	5.91	1	4	1	*1:4,926
Drumheller	29,657	4,300	6.90	..	6	....	1:4,943
Leduc-Strathcona	28,505	1,600	17.81	1	5	....	1:4,751
Grande Prairie	31,905	19,000	1.68	1	4	5	*1:3,190
Peace River	32,591	27,400	1.19	1	7	2	*1:3,259
Vegreville	32,298	3,700	8.73	1	6	....	1:4,614
City of Lethbridge	34,911	12	2,909	1	6	....	1:4,987
North Eastern Alberta	35,140	6,000	5.86	1	6	....	1:5,020
Mount View	46,958	5,000	9.03	1	5	....	1:7,826
Medicine Hat	47,515	10,000	4.75	1	8	....	1:5,279
Alberta East Central	50,454	7,300	6.91	..	8	....	1:6,307
Sturgeon	54,713	3,700	14.78	1	7	....	1:6,839
Red Deer	60,287	4,000	15.06	1	8	....	1:6,699
CITIES							
Calgary	241,675	76	3,180	1	47	....	1:5,035
Edmonton	276,018	58	4,586	1	54	....	1:5,018

*Municipal Nurses included.

TABLE 3

PUBLIC HEALTH NURSING CONSULTATIONS BY MUNICIPAL NURSES

Age Group	Office	Home
Infant	1,662	615
Preschool	1,720	1,304
School	1,847	1,207
Adult	3,906	2,130
Older Age Group	435	596
Totals	9,570	5,852

TABLE 4

MINOR AND EMERGENCY TREATMENT CONSULTATIONS BY MUNICIPAL NURSES

Age Group	Office	Home
Infant	1,259	215
Preschool	2,419	424
School	3,801	435
Adult	8,251	741
Older Age Group	879	446
Totals	16,609	2,261

TABLE 5
SPECIFIC SERVICES PROVIDED BY MUNICIPAL NURSES

Prenatal Consultations	1,024
Postnatal Consultations	373
New Infant Consultations	495
TB Patient Consultations	158
TB Contact Consultations	736
V. D. Patient Consultations	118
Other Communicable Disease Consultations	699
Mental Health Consultations	243
Consultations with Other Agencies	1,141
Number of Referrals to Doctor or Hospital	1,990
Number of Home Deliveries	23
Number of Abortions	8
Number of Accidents Attended	859
Number of Films Shown	132
Number of Health Unit Staff Meetings Attended	66
Number of Other Meetings Attended	137

TABLE 6
SCHOOL HEALTH SERVICES PROVIDED BY MUNICIPAL NURSES

Number of Visits to Schools	671
Number of Physical Examinations Assisted	525
Number of Inspections Undertaken by Nurses	5,877
Number of Nurse-Teacher Conferences	649
Number of Conferences with Parents	441
Number of Conferences with Staff Members	60
Number of School Meetings Attended	30

TABLE 7
IMMUNIZATION AND TESTS GIVEN BY MUNICIPAL NURSES

	Infant	Preschool	School	Adult
Diphtheria	1,828	2,256	2,617	135
Pertussis	1,807	2,053	236	6
Tetanus	1,816	2,227	3,057	657
Poliomyelitis	1,795	2,118	3,168	1,936
T.A.B. ....	.....	5	201	35
Smallpox	353	553	884	62
B.C.G. ....	.....	.....	.....	.....
Other Immunizations	3	29	158	212
Tuberculin	16	117	1,822	253
Other Tests	3	2	29	10
Gamma Globulin	48	86	28	67

TABLE 8
CHILD HEALTH CONFERENCES CONDUCTED BY MUNICIPAL NURSES

Number of Clinics Held	530
Number of Infants Attending	1,843
Number of Preschoolers Attending	2,154
Number Examined by Doctor	137

MATERNAL AND CHILD HEALTH

Janet C. Bailey, P.H.N., R.N., Nursing Consultant

The second complete year of nursing consultant service in maternal and child health saw a change in the use of the service.

Fewer field trips were made in 1961 but most of the visits were for several days to allow time to study specific parts of the public health nursing program. At each opportunity presented emphasis was placed on the need and value of well developed liaison between hospital and public health services.

SERVICE TO HEALTH UNITS

In seven health units the public health nursing program was reviewed with the aim of strengthening certain areas of service, mainly prenatal and postnatal home visiting and the institution of planned teacher-nurse conferences as part of the school health service.

In several units adjacent to each other located north of Edmonton, a new system of recording nursing service statistics was instituted. By this means the work of the public health nurses can be planned more carefully and reviewed more adequately than it is possible to do with statistical reporting only.

PRENATAL TEACHING

Prenatal teaching is considered to be a very important part of a good public health program. Much is taught individual patients by private physicians in local communities but during the last few years group instruction has also been made available. In 1961, there were nineteen centres in Alberta offering prenatal classes. The total attendance was 1,167 patients or approximately 3% of the number of live births in Alberta. There would be much benefit derived from an extension of this service to areas where it is not presently available.

An increase in the amount of prenatal teaching during home visits by public health nurses has been noted. In the areas where the population is small and scattered, this is often the only practical way of rendering this service.

The continuing interest of the nursing profession in prenatal care was evidenced by the inclusion of a talk by the nursing consultant entitled Trends in Prenatal Care on the program of the Annual Convention of the Alberta Association of Registered Nurses held in Banff in May.

LIAISON WITH HOSPITALS

Recently there has been a definite upsurge in interest in co-ordinating the activities of hospital and public health personnel interested in maternal and child health. In many communities regular visits are paid to postnatal patients while they are in hospital by the public health nurses who later visit them in their homes. In addition to explaining the services available to the mothers and facilitating later home visits, this program has resulted in better relationships between the staffs and thus in more satisfactory referral of other health problems as well.

The large city hospitals in a metropolitan area which are served by several health agencies present a very different problem for the adequate referral of patients who are returning to the community. At present the office of the nursing consultant functions to a limited degree as a clearing centre for information regarding premature infants who are discharged from hospital. A more direct referral system should be developed to extend the service to more hospitals and health agencies not only for infants but for any patients with continuing handicapping conditions.

On two occasions special consultant visits were requested by hospitals presenting nursery problems. Reports of these visits were made to the Hospital Services Division.

LECTURES AND MEETINGS

The nursing consultant gives a lecture to each new class of nurses enrolled in both the Advanced Practical Obstetrics Course at the University of Alberta and the short course given in the Care of Premature Infants at the University of Alberta Hospital. Both these opportunities are used to explain the public health nursing services available in Alberta and the need for continuous co-operation between hospital staffs and health agencies.

The monthly meetings of the Perinatal Mortality Committee were attended regularly. As well as the full discussion of many maternal and perinatal problems that takes place at these meetings an opportunity is afforded the nursing consultant to explain community resources and the functions of various health agencies to the obstetric and pediatric physicians on the Committee. This Committee approves of planned systems for referring infants ready for discharge for follow-up care by public health nurses in the home as indicated.

The annual meeting of the Advisory Committee of the Child and Maternal Health Division, Department of National Health and Welfare convened for their two-day meeting in September. The nursing consultant attended as the Alberta representative. At this time, in addition to the presentation of reports of recent developments in the field of maternal and child health in all provinces, many topics of special interest in this field were considered.

DENTAL PUBLIC HEALTH

C. W. B. McPhail, B.Sc., D.D.S., M.S.D., Director

No health authority today questions the need for prevention in a dental health program. And the success of any volunteer preventive program is governed largely by its acceptance and use by the public. Thus dental health education relating to the importance of dental health and the proven means of prevention and control that are available (for use either on an individual or community basis) plus the promotion and actual use of these measures, are the basic factors in a preventive dental health program. However, the provision of treatment services for the relief of pain and infection for those children who, for one reason or another, do not have access to established dental services should not be overlooked in a dental health program.

The Health Unit and Health Department, because of (a) its role in the community related to health services generally, and (b) the opportunity of its members for close and regular contact with the public, the health and teaching professions, volunteer groups, institutions, etc., offers the most effective and practical method of establishing and expanding sound preventive dental health practices. For these reasons, continued emphasis has been placed upon the expansion of Health Unit and City Health Department preventive dental health programs. The improvement and expansion of the volunteer private practice program in rural areas (Program B) in order to effect a better distribution of treatment services, has been the second major objective.

A good supply of dental health pamphlets, posters, booklets, film strips and films was made available. The brochure "Effective Methods for Preventing Tooth Decay" was revised. A colored slide library on dental health material is now being prepared. Dental health survey sense cards are being planned and will be available in 1962. A successful two-day conference of Dentists in Public Health Services was held in November 1961.

HEALTH UNIT PREVENTIVE DENTAL PROGRAMS

Experience has shown that these programs can best be developed under the direction of a dentist as a full-time member of the Health Unit team, closely integrating dental health services with the general health services of the Health Unit. However, in some instances, it has been necessary and practical to recommend an interim type of program, which serves as a stepping stone to a full-time program, using the services of dentists on a part-time or a short term basis, and the services of third year dental students during the summer recess period.

Sixteen of the twenty-four local Health Units operated a dental health program in 1961. Six employed the services of a Dental Officer of Health on a full-time basis, two on a half-time basis. Two units were served on a continuous part-time basis by local practising dentists. Two units conducted a summer program with services provided by a dentist and a third-year dental student. The remaining four units employed the services of third-year dental students to provide preventive dental services.

Programs were basically preventive, providing dental health education, examination and referral, consultation, surveys, prophylaxis and topical fluoride applications. Some programs provided limited treatment services to the young age groups, particularly in areas where services were in short supply. Reports from the Health Units indicate that these programs were well received with a high acceptance rate. The financial aid from the Department in the form of dental grants to Health Units amounted to approximately \$118,000.00.

A number of Health Units with full-time Dental Health Officers have been developing particular aspects of dental public health. The information gained in these fields will be passed on to the other Health Units. For example, the Jasper Place Health Unit has been developing dental health educational methods. The Sturgeon Health Unit has been developing the use of photography and slides in public health. The Red Deer Health Unit has been working with individual water supply fluoride content related to dental caries and mottling. The Barons-Eureka Health Unit has been assessing the value of treatment services to limited age groups.

The City of Calgary Health Department is developing a very fine program. A brief report submitted by the Director of Dental Health Services for Calgary reads as follows:

"As education holds the answer to the prevention and control of dental disease it occupies a position of high priority in our new approach. It was pointed out to the School Board, teachers, and public health nurses that better dental education must be carried out and integrated into the school's general educational program and home environment on a continuous basis.

Some of the new steps which are now in operation:

- (1) Topical applications of fluorides have begun and will continue on a regular basis available for all indigents, (Grades 2 and 3) and all Grade I students.
- (2) Three free preschool dental examination and consultation clinics are held throughout the city on a weekly basis.
- (3) The public health nurses, teachers and teachers in training (2,000) have been given short dental courses, lectures, and a dental manual will serve as a directive in their dental educational program.
- (4) School examinations, cards, and follow-up cards, have been implemented for **all** school children, (50,000).
- (5) Early examination and treatment is rendered to all lower income children up to Grade 3, (i.e., under means test, and welfare children).
- (6) Mass media sources have offered excellent co-operation to date.
- (7) In all our clinics and preschool clinics to all parents, teachers and nurses, the need for fluoridation is being stressed."

Under the direction of the first full-time Director, the City of Edmonton's Health Department dental program is progressing favourably and according to a report submitted by the Director of Dental Health Services the following steps were taken in 1961.

- (1) The Welfare Department was encouraged to care for their own through private practice dental offices. This will become a fact in 1962 and will relieve the city treatment service of about 30% of the work load.
- (2) A school-age educational program was initiated in the North-East area of the city. This is being carried out by a full-time hygienist and is the first phase of such a city-wide service.
- (3) A pilot project of preschool children was carried out during August 1961. The information thus gained will be used in the spring of 1962 to initiate a city-wide preschool program of education, consultation and topical fluoride application.
- (4) Much time and effort went into the fluoridation plebiscite, resulting in a 62 percent favourable vote, but short of the necessary two-thirds. However, from the standpoint of raising the dental consciousness of the community and health department personnel, it was time well spent.
- (5) An I.B.M. sense card was developed for use in compiling and collating dental statistics so intelligent programming and assessing can be carried out. This punch card will be in use by spring, 1962.
- (6) Efforts are being made to release dental public health funds from treatment services. There is reason to be optimistic and 1962 may see the treatment program completely converted to dental public health preventive practices.
- (7) The limited treatment service for medical indigents was largely unchanged in 1961. This service consisted of five clinics operating on a half-time basis.
- (8) The school examination and referral service remained unchanged. Grades I, II, III, IV, VI and VIII were examined, with a notification of dental defects to parents, encouraging early and regular treatment.

It is planned to have the preventive program fully developed and the resulting benefits becoming evident by 1968. It is hoped that each of the five clinics will then have a dental assistant and two hygienists, one of whom will be occupied with preschool clinical preventive and educational procedures, the other carrying the dental health education program into the schools".

Valuable contributions have been made by both of these programs: the City of Calgary, with regard to the planning and administration of a comprehensive dental health program, and the City of Edmonton with regard to the use of statistics in dental public health.

VOLUNTEER PRIVATE PRACTICE PROGRAMS IN RURAL AREAS

Following is an extract from a report received by one of the dentists who volunteered to participate in one of these programs:

"The area is very isolated from health services, and it is about 70 miles to the nearest dentist. In a number of cases the expense and time required to travel to a dentist makes it impossible for

these people to obtain adequate dental services even where they would like to do so. Hence, this is definitely an area where real service is being rendered by the dentist going to them. A number of patients expressed their appreciation of my visit, and a number of people wanted to know when I would be back."

Unequal distribution of dental services at the expense of these rural communities remains a problem, however, this program is providing a worthwhile service.

The first program was started in December of 1960 and since that time twelve programs have been completed. A few requests have not been followed up because of (a) the small number of people living in the community, and/or (b) reasonable access to existing dental services in surrounding communities. However, as the program becomes better organized it is hoped that more communities can be served. Meantime, in no instance has the lack of a volunteer dentist been the reason for not following up a request.

OTHER FACTORS RELATED TO DENTAL HEALTH

(1) In June of 1961 the renovated and expanded Faculty of Dentistry, University of Alberta, was opened with an increased capacity from thirty to fifty-five students per year.

(2) In September of 1961 the first class of Dental Auxiliaries registered in the Faculty of Dentistry, University of Alberta for the two-year program leading to the Diploma of Dental Auxiliaries. Although the course was opened to both male and female, the first class consisted of twenty females, fifteen from Alberta, four from Saskatchewan and one from Ontario.

(3) In the spring session of the Legislature in 1961 The Registered Dental Technicians Act was passed giving official recognition for the first time in Alberta to a proven and valuable member of the dental health team, the Dental Laboratory Technician. The Registered Dental Technician on the prescription or direction of a dentist provides the arts and skills of laboratory procedures for the fabrication of appliances used by the dentist. The Dental Technicians are registered under the Department of Public Health.

(4) A private Bill, #59, resulted in the passing of The Registered Dental Mechanics Act during the 1961 session of the Legislature. The Registered Dental Mechanic is not a member of the dental health team, but works independent of the dental profession and only provides (on the basis of an Oral Certificate of Health, signed by either a physician or a dentist), full dentures directly to the public. The Registered Dental Mechanics are registered under the Department of Labour. Both the Technicians and Mechanics are permitted to perform denture repairs directly.

(5) Controlled fluoridation of communal water supplies. Under existing legislation a number of plebiscites on fluoridation were held throughout Alberta. As of December 31st 1961, 29 plebiscites have

been held. 21 of the 29 plebiscites received better than a straight majority favourable vote; 16 received a 60% or more favourable vote and 13 reached the necessary 66 2/3 required by legislation.

Six communities were fluoridating as follows: Devon, Fairview, Grande Prairie, Innisfail, Red Deer and Bonnyville, serving a total population of approximately 34,700. Five additional municipalities passed the necessary plebiscite with a 2/3 favourable majority, Athabasca, Coaldale, Fort Saskatchewan, Leduc and St. Albert with a total population of approximately 14,000. The Village of Ralston and the Air Base at Cold Lake also passed plebiscites with a 2/3 or better favourable vote for fluoridation.

(6) Naturally occurring fluorides in municipal water systems. Figures provided by the Provincial Sanitary Engineers show that 150 of the 195 municipal water work systems have now been tested for fluoride ion concentration. 51 of these serving a population of approximately 50,000 have been shown to have a concentration of 0.7 p.p.m. or more fluorine ion.

SUMMARY

The Division of Dental Health Services will continue to encourage and promote dental health education and the use of all proven means of prevention and control of dental diseases. Health Boards of both the Health Units and City Health Departments, along with those in public health services, are to be commended for the progress of dental public health in this Province. The continually growing interest in dental public health services indicates the awareness and active concern of the public.

NUTRITION SERVICES

Elva M. Perdue, B.Sc., (H.Ec.), B.Ed., Nutritionist

The purpose of the nutrition program under the direction of the public health nutritionist is to establish and maintain good health for the people of Alberta through promotion of good nutrition practices. This is done both by keeping allied professional groups informed about the trends in nutrition and by providing an information and education service to the public. Consultant service is given to public health personnel, dietitians, welfare workers, teachers, home economists and university staff concerned with teaching home economics, public health nursing and education. By working chiefly through these consulting channels the nutritionist is able to spread her services over a wider area and, in so doing, influence indirectly more persons than she could ever reach through her own direct services.

During 1961, the nutritionist has helped public health personnel throughout the province by advising on diet problems and general nutrition teaching, providing current nutrition information, selecting and securing teaching media and audio-visual aids, and at times participating personally in educational activities such as prenatal classes. There has been a growing recognition that dietary excess leading to overweight is a high priority public health problem and the nutritionist served as a group leader for four overweight groups. She also supplied educational materials—low calorie diets, suggestions for meal planning, tables of average weights, films, and literature on the preventive aspects of obesity—for use by professional workers.

There has been a substantial increase this year in the number of requests from public health personnel for information on the merits of "health foods", "food supplements" and vitamin and mineral preparations. Materials on these subjects were widely distributed. There was also a greater number of requests for recipes for use in allergy and low cholesterol diets as well as for assistance in the management of special diet problems of patients confined in their own homes.

During the month of August the nutritionist participated in a health clinic for four year olds sponsored by the City of Edmonton Health Department. One hundred and forty-seven mothers and three fathers were interviewed. The type of nutrition information discussed in detail with the parent depended upon medical and dental findings and the questions asked. From this project the nutritionist obtained much worthwhile information which has been useful in the guidance of public health nurses in those areas needing special emphasis in their nutrition teaching.

As in past years, nine issues of Nutritionally Speaking were again prepared and distributed to public health personnel, industrial nurses, home economics and health teachers. This mimeographed release is intended to provide information on recent advances and new teaching materials in the field of nutrition. Mimeographed materials for use in special programs in the health units and for distribution to school students and the lay public were also prepared. In addition, Canada's

Food Rules were printed by the provincial department to help meet the large number of requests which were received in excess of the supply available from the Department of National Health and Welfare.

Routine circulation of new journals to interested persons was continued and other publications were loaned upon request. The small lending library of nutrition books was still maintained by Nutrition Services as a reference source for the public health staff and, in some cases, for the general public. Sixty-two loans to health personnel and twenty-seven to the general public were made during 1961.

The nutritionist was again available to assist professional personnel in all divisions of the department with problems in nutrition, food preparation and sanitation. There was also continued cooperation with provincial and federal government departments in an exchange of ideas, materials, etc. At the provincial level, there was an active rapport with personnel in the Departments of Agriculture, Education and Welfare. At the federal level, a close working relationship was maintained with the Nutrition Division of the Department of National Health and Welfare, the dietitian in the Foothills Region of Indian and Northern Health Services, the Consumer Section of the Department of Agriculture and the Home Economics Section of the Department of Fisheries.

At the request of the Department of Welfare, the nutritionist continued to serve on a committee with home economists from the Alberta Department of Agriculture to revise the standards used in the food allowance scales for welfare assistance. The Department of Welfare also requested menu suggestions and quantity recipes for six agencies concerned with group feeding of children.

Consultant service was continued to senior citizen's homes, the School for the Deaf and other institutions which do not have a dietitian on their staff. For example: assistance in obtaining standardized quantity recipes, calculating the right amount of food without having excessive left-overs, as well as assistance in planning special diet menus, was given to sixteen senior citizens' homes. Standardized quantity recipes were made available quarterly to the Associated Hospitals of Alberta for distribution to its members and requests were also received from the larger hospitals for information on films and reference materials.

Assistance in nutrition education in schools and in the Faculty of Education at the University of Alberta was given. An increased number of requests for pamphlets, booklets, and posters were received from both students and teachers and eighty-six animal feeding demonstrations were conducted in the schools. Since the Home and School Associations offer a particularly useful liaison between the home and the school, program suggestions, reference materials, films and filmstrips have been made available to public health personnel, teachers and others responsible for Association meetings.

As usual, a great part of the nutritionist's time was spent in answering questions, giving information and solving problems received from individuals, although we tried when possible to work in such

a way that a group was involved. Much specific information on available foods, food budgets and food habits was supplied and an increasing number of requests was received for assistance in planning menus and recipes in the therapy of diabetes, hypertension and cardiac conditions.

Aid in pre-planning the food service at summer camps and assistance to personnel throughout the camping period was given. Educational materials about food as it is related to health were made available to leaders for camp projects and suggestions were made for inclusion in a booklet on camping being prepared by the Boy Scouts' Association.

In addition to the nutritionist's official duties, she served on committees of the Alberta Home Economics' Association, Canadian Home Economics' Association and the Consumers' Association of Canada. She was also granted permission to attend the Canadian Public Health Association Convention and the joint meeting of the Dominion-Provincial Nutrition Committee and the Canadian Council on Nutrition.

ENTOMOLOGY AND VECTOR CONTROL

J. H. Brown, B.Sc., M.Sc., F.A.P.H.A., M.R.S.H., Director

The Division of Entomology and Vector Control is responsible for the locating of, and the control of arthropod-borne diseases of man and their reservoirs of infection in native small mammals, with particular attention being paid to Rocky Mountain Spotted Fever, Colorado Tick Fever, Bubonic Plague, Tularaemia, Encephalomyelitis, and to other less well-known conditions, which are of Public Health importance.

Other problems, such as fly and mosquito control, the use of insecticides, insect infestations in food-stuffs and insect pests of institutions, also fall within the work of the Division. Furthermore, a considerable amount of time is devoted to determining the distribution and species of the insects, ticks and mites that are involved in the transmission of human diseases. A number of other biological problems such as the control of leeches and swimmers itch, the evaluation of pesticides as a public health hazard and vermin control are also included.

TICK SURVEY

The Rocky Mountain Spotted Fever tick, *Dermacentor andersoni* is well-established in Alberta. Its known and supposed range embraces all of that part of Alberta south of a line from Empress west to Calgary, and thence north and west in the foothills and mountains north to Fort St. John, B.C.

Collections—During 1961 a total of 8 collections were made with 153 ticks being collected by drag. There were no host collections. All of the collections were submitted to the Rocky Mountain Laboratory at Hamilton, Montana, for testing but the results have not been received.

ROCKY MOUNTAIN SPOTTED FEVER

During 1961, a suspected case occurred in a male, 25 years old, who had a live tick removed at the University Hospital Emergency Ward. This tick had been picked up at Banff and had been feeding one week prior to removal. He showed signs of a fever with no further developments. However it is known that infected ticks and reservoirs of infection are present at Medicine Hat, Lethbridge, Milk River, Manyberries, Brooks, Kananaskis and Banff.

Vaccinations—During 1961 a total of 1,967 doses of Rocky Mountain Spotted Fever vaccine were given in the Medicine Hat, Lethbridge, Milk River, Ralston, Manyberries, Brooks, Kananaskis and Banff areas.

Tick Paralysis—No cases were reported during 1961.

PLAGUE SURVEY

Two very large areas of Plague infection, one centering on Hanna and the other on Brooks exist in Alberta; in both of these areas plague-

infected Ground Squirrels (gophers) and plague-infected Ground Squirrel fleas are present in large numbers.

There are 14 species of fleas in Alberta that are capable of transmitting plague from infected animals to man, fortunately most of these species are not very numerous, and in many cases their distribution is limited. In 1961 a total of 123 fleas and 158 tissue specimens were collected in various areas from 68 small mammals. These were submitted to the Plague Suppressive Measures Laboratory, United States Public Health Services at San Francisco, California, for bacteriological examination. Results have not yet been received.

FLY CONTROL

A program of Fly Control within Health Units was developed during 1961, based mainly on adequate sanitation and proper garbage disposal, and aided by chemical spraying. This program was developed in this Division and is based on the fact that spraying for fly control in small towns is very costly. The program appeared to have been well accepted.

MOSQUITO CONTROL

Mosquitoes did not present a very serious problem except in the irrigation areas of southern Alberta. However they were present in sufficient numbers to constitute a nuisance at most of the summer resort areas. Since the establishment of the Provincial Parks there has been a very great demand in all parts of the province for local mosquito control programs, but, unfortunately, mosquito control in such small areas is expensive and ineffective unless a definite long range program embracing a number of such places is undertaken. When this is done, with the cost being spread out over a period of years, an exceptionally cheap and effective control can be had.

SCHISTOSOMIASIS

Schistosome dermatitis is becoming quite a serious problem in many of the new lake areas and Provincial Parks that are being opened up. This condition is caused by the penetration of the skin by a small fork-tailed parasite (**cercariae**). In man it always follows bathing or swimming in infested lakes or ponds and is characterized by a localized area of very itchy weals.

Snails, which are the hosts for the **cercariae**, are sensitive to copper, and under certain conditions, small quantities of it in the water will poison them. As this has to be done at least once a week it becomes an expensive control. This same chemical is also toxic to fish and unless properly applied can have a very adverse effect on the fish population. Furthermore, there is a grave danger that the accumulation of toxic copper in the water will present a hazard to the general public.

The investigation into the biological, epidemiological and immunological aspects of **Schistosome dermatitis** which was undertaken with the investigation to be in the form of a two-year pilot experiment, supported as Project 608-7-24 under the National Health Grants Program, was continued. The work is being done under the auspices of the Department of Public Health, with the assistance of an Immunolog-

ist and Dermatologist. The laboratory investigations are being carried on at the Department of Zoology, University of Alberta, under the direction of Dr. John Holmes.

PESTICIDE INVESTIGATION PROJECT

In 1961 preliminary investigation of milk samples were obtained from farms and dairy plants. The purpose of this preliminary survey, was to obtain information regarding the prevalence of antibiotics in the milk supply in Alberta. It was the intention of the Dairy Bacteriology Laboratory to extend the survey to include milk used for manufacturing purposes such as cream, milk powder and condensed milk, as well as cream used for buttermaking purposes.

In 1961 the milk from 1,264 herds was checked by the Department of Agriculture in co-operation with the Department of Public Health and only three cases of antibiotics have been found. They also stated that the percentage of negative samples 99.76 is one of the highest on the continent. This check on the milk from herds will continue throughout the province with the object of elimination of traces of antibiotic and pesticide residues.

LEECHES

Reports of leech infestations came in from many Alberta lakes during 1961 and appropriate advice was given. It is evident that leeches will become a problem at many of the resort areas being now developed, particularly in regard to the wading areas, and the operators of resort areas are very much concerned over the problem.

HARVEST ITCH

Harvest itch is a skin condition somewhat similar to scabies and is caused by mites. The mites involved are normally on such vegetation as grain and grasses and are accidentally transferred to the person of harvesters and others handling such materials, particularly in the fall and winter. The necessary advice for controlling outbreaks was circulated to Health Units and local practitioners during 1961. There were no cases of Harvest Itch during the year.

INSECTICIDES

Vapourizers are mechanical devices for releasing the fumes of lindane and other insecticides by means of electrical heating elements. Installation regulations under the Canadian Standards Association are used to control their use in food-handling establishments with the result that this problem is decreasing.

In view of the fact that Insecticides, and Pesticides generally, are toxic materials the Division is being very cautious in making recommendations unless there is sufficient evidence that the materials will be used by competent persons in a proper manner. It should be a matter of great concern when it is realized that there is a vast array of "poisons" now present in every household. There is ample evidence now available to indicate that some regulatory measures regarding the use of pesticides should be introduced. Particular concern is felt in regard to the possible contamination of milk and milk products through the improper use of pesticides on farms, in dairy barns and the places where milk is produced, handled and processed.

Q FEVER

In 1961 the Q Fever Survey demonstrated the presence of the organism in dairy herds in various parts of the province. Further work is being carried on to evaluate the importance of these findings, and also to determine the extent of human involvement.

A report summarizing the result of testing for Q fever in milk samples received at the Provincial Dairy Laboratory between May 1st, 1961, and November 1st, 1961, was from a survey that included practically all herds supplying the cities of Edmonton, Calgary and Lethbridge with milk, but does not give complete coverage for the rest of the Province.

Essentially it represents a re-test of herds tested in 1959 and again in 1960, although not necessarily the same animals as there would be changes within the individual herds.

GENERAL SUMMARY

Total number of individual herds tested	1,020
Negative herds	951
Positive herds	69
Positive herds in percentage	6.8

DISTRIBUTION ACCORDING TO LOCATION

	Total	Neg.	Pos.	% Pos.
Herds in the Edmonton milk shed	415	407	8	1.9
Herds in the Calgary milk shed	326	294	32	9.8
Herds in the Lethbridge milk shed	45	27	18	40.0
Herds supplying plants other than Edmonton, Calgary and Lethbridge	226	215	11	4.8
Raw milk Producer-Distributors	8	8	0	0

32 of the positive herds had either been negative before or not tested.

As for previous years, it was observed that once a herd becomes infected, it usually remains infected. Also that the infection up till now has pretty much been limited to purebred herds.

LABORATORY

Insect Identification—During 1961 numerous specimens of insects from different products and places were received for identification. Insects from tropical and semi-tropical areas continue to be found in Alberta. From the increase in their numbers, and as they are plant-eating insects, it would appear that they may be directly connected with the vanning-in of fruit and vegetables. Suitable information for control measures was supplied and the local Sanitary Inspectors were notified in each case.

Insect Collections—Good progress was made in 1961 in arranging the collection of insects and ticks injurious to human health.

Water Samples—Many samples of water were sent in from the Health Units from reservoirs, tap water, etc. and found to contain

Algae, Chromogenic bacteria, and small aquatic insects. Information for checking these conditions was given by letter.

STAFF

During 1961 the summer field investigations were carried on by Mr. J. H. Brown, M.Sc., Director, Entomology and Vector Control and Mr. A. F. Kirdeikis, B.Sc., Biologist.

The usual educational work in regard to the control of insect-borne diseases was carried out by means of radio, television, motion pictures, newspapers and lectures. The usual lectures to the 3rd year Medical Students, Public Health Nurses and Nurses-in-Training were given, and in some cases, expanded. A series of lectures were given to the students taking the "Health" course in the Faculty of Education.

PROVINCIAL POISON CONTROL SERVICE

J. H. Brown, B.Sc., M.Sc., F.A.P.H.A., M.R.S.H., Director

PROCEDURE

The Advisory Committee recommended a comprehensive plan. This plan was adopted for the Provincial Poison Control Service and is as follows:—

1. Poison Treatment Centres were established in every Active Treatment Hospital in Alberta.
 - (a) Each of the 103 active treatment hospitals in the province were supplied with an indexed cardwheel holding approximately 2,400 cards listing the toxic and potentially toxic drugs, medications, pesticides, chemicals and household products in common use in Alberta.
 - (b) Each hospital was individually supplied with a reference book "Clinical Toxicology of Commercial Products, (Home & Farm)" by Gleason, Gosselin & Hodge and published by Williams & Wilkins.
 - (c) Each hospital was provided with the necessary report forms for reporting each Individual Poisoning, as well as Monthly Report forms to show the number of cases treated at each hospital.
 - (d) Each hospital was supplied with a copy of the "Manual on the Poison Control Service of the Alberta Department of Public Health" which outlined the program and contained a recommended list of drugs, instruments and other equipment for the Poison Treatment Centres. A copy of this manual was also sent to each registered physician and pharmacist in the province.

All of these items were supplied by the Department of Public Health, through the assistance of the National Health Grants Program, and each hospital provided space in their Emergency Service where the supplied items are kept. Each hospital also brought together the recommended list of drugs, instruments, and equipment essential for the rapid treatment of Poisonings in a convenient location in the Emergency Service.

2. Two Poison Information Centres—one in the University Hospital, Edmonton and the other in the General Hospital, Calgary, were established to service Northern and Southern Alberta respectively. Each of these Information Centres were equipped with a cardwheel holding approximately 5,000 cards covering practically all of the toxic and potentially toxic commercial and household products which might be available in the province. Each centre was also equipped with a reference library of 10 carefully selected text books having to do with poisonings, their symptoms, and their treatment. Each Information Centre was supplied with a direct line telephone—(the numbers are not available to the public) with both numbers circulated to all medical practitioners, pharmacists and hospitals in Alberta with the assurance that they may call

either Information Centre free of charge, at any hour of the day or night, for information relative to the treatment of a poisoning. Each Information Centre has a senior member of the paediatric staff as Officer-In-Charge while other members on the paediatric staff supply a 24-hour coverage for the service.

3. In accordance with the recommendations of the Advisory Committee a Provincial Poison Control Service headquarters was established in the Department of Public Health where the reports of Individual Poisonings and Monthly Reports from the hospitals are received. At this headquarters the information relative to the poisonings is coded, sorted, and then entered on monthly sheets according to the category and substance of the toxic material; the sex and age of the victim, the place, date and time of the incident; the symptoms, treatment and result of the incident; and the place where it occurred, i.e., in the home, on the farm, industry, etc.

4. In accordance with the agreement made with the Poison Control Program of the Food and Drug Directorate, Ottawa, a comprehensive quarterly report is compiled and forwarded to them. A mimeographed summary of the number of poisonings by months and categories, as well as by categories and age-groups for each quarter is prepared and mailed to each practising physician and to each hospital in the province. Copies of the mimeographed quarterly summary are also made available to interested groups and persons at the direction of the Minister of Health.

INCEPTION OF PROGRAM

The program came into effect on March 1, 1960 and there has been practically complete reporting since that date. During 1961 a total of 2,454 cases were reported. Of these, 1,308 were males and 1,146 were females. The deaths among these reported cases were 4 males and no females making a total of 4 deaths or a fatality rate of .16%; this rate is in accord with the findings elsewhere.

VITAL STATISTICS

During 1961 arrangements were made with the Division of Vital Statistics that all deaths occurring outside hospitals, were to be reported and these are added as a separate group. In 1961 there were approximately 33 deaths occurring outside of hospitals.

REPORTING

For purpose of reporting eight (8) Categories were established covering the substances in common use. These Categories are:

A. Drugs and Medications for External Use,—which embraces antiseptics, liniments, cosmetics, salves, etc.

B. Drugs and Medications for Internal Use,—which covers aspirins, Baby's Own & Ex-Lax, sedatives & sleeping pills, cough syrups, prescription drugs, etc.

C. Household Chemicals,—which includes cleaners, detergents, lye, polishes, waxes, solvents and varsol, etc.

D. Industrial Auto and Fuel,—such as gas (CO), industrial products, gasoline, etc.

E. Poisonous Plants and Venomous Animals,—which covers berries and plants, toadstools, etc.

F. Pesticides,—which includes insecticides, moth balls, rodenticides, weedicides, etc.

G. Tobacco and Alcohol,—which covers ethyl alcohol, and tobacco.

H. Miscellaneous,—embracing substances difficult to categorize.

The following tables present the results in statistical form:

TABLE 1

POISONINGS (INCLUDING DEATHS), FOR ALL AGE-GROUPS, BY SEX, AND TOTALS, FOR EACH MONTH, 1961

Months	All Categories			Deaths		
	M	F	T	M	F	T
January	98*	86	184*	1	....	1
February	89	91	180	....	....	....
March	98*	93	191*	1	....	1
April	109	82	191	....	....	....
May	102	89	191	....	....	....
June	124	118	242	....	....	....
July	106*	104	210*	1	....	1
August	112	88	200	....	....	....
September	118	108	226	....	....	....
October	127	105	232	....	....	....
November	123*	95	218*	1	....	1
December	102	87	189	....	....	....
Total	1308*	1146	2454*	4	....	4

*Deaths Included in "All Categories" columns. This list of deaths from poisonings should not be regarded as official for Alberta for 1961.

TABLE 2
POISONINGS (INCLUDING DEATHS). IN EACH AGE-GROUP, BY SEX, AND TOTALS FOR ALL CATEGORIES BY MONTHS

Months	0-5		5-14		15-24		25-44		45 and Up		All Age Groups		Deaths				
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T		
January	77	52	129	9	14	18	5*	10	15*	7	3	98*	86	184*	1	1	
February	75	64	139	4	14	16	7	7	12	3	6	89	91	180	...	...
March	83	63	148	1	7	9	5*	5*	13	5	7	98*	93	191*	1	1	
April	84	58	140	11	3	15	18	6	12	5	3	109	82	191	...	...
May	88	70	158	4	3	7	5	7	9	2	2	102	89	191	...	...
June	100	84	184	8	7	15	6	11	14	3	5	124	118	242	...	...
July	85	77	162	2	4	10	16	8	17	4*	2	106*	104	210*	1	1	
August	94	65	159	6	2	8	3	10	15	4	2	112	88	200	...	...
September	95	77	172	2	5	12	5	11	19	7	4	118	108	226	...	...
October	108	77	185	5	3	8	8	8	12	2	1	127	105	232	...	...
November	100*	72	172*	9	3	12	9	4	8	1	2	123*	95	218*	1	1	
December	80	60	140	6	3	9	7	6	12	2	5	102	87	189	...	...
Total	1071*	817	1888*	63	45	108	57	141	198	69*	46*	1308*	1146	2454*	4	4	
% Total of poisonings															3.4%	.16%	.16%
*Indicates one or more deaths included.															7.2%	8.1%	4.4%
Deaths	1	...	1	...	...	...	...	2	...	2	1	...	4	...	4	4

TABLE 3
POISONINGS (INCLUDING DEATHS), BY SEX AND TOTALS FOR ALL AGE-GROUPS FOR EACH CATEGORY BY MONTHS

Months	Drugs and Med. for Ext. Use		Drugs and Med. For Int. Use		Household Chemicals		Industrial Auto and Fuel		Poison Plants		Pesticides		Tobacco and Alcohol		Misc.		Totals		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
Jan.	6	7	53	53	19	9	9*	9	18	12	4	3	7	5	2	2	8	86	184
Feb.	8	3	48	64	24	8	3	9	12	32	5	3	7	1	1	1	7	89	180
Mar.	3	7	57	114	25*	15	2	4	15	40	12	2	12	19	3	3	5	98*	91
April	10	2	54	58	20	13	6	6	12	33	6	17	2	1	1	1	3	109*	82
May	3	3	56	47	23	18	7	12	19	41	9	8	1	1	1	1	2	102	86
June	5	6	48	57	27	23	11	13	24	50	13	19	2	1	1	1	5	124	242
July	8	6	50	61	23	19	18*	3	23	42	6	8	4	1	1	1	1	106*	118
Aug.	6	4	49	55	23	10	19	3	22	33	10	8	2	2	1	1	5	112	188
Sept.	6	4	59	71	23	17	12	4	16	33	17	8	3	3	1	1	5	118	206
Oct.	7	7	73	77	29	12	7	6	13	41	18	9	5	2	2	2	5	127	108
Nov.	10	5	67	61	24	10	12	10	22	34	11	5	1	1	1	1	2	123*	95
Dec.	13	3	41	56	24	15	14	5	19	39	4	7	12	2	3	1	2	102	87
Total	86	54	655	717	284	169	120	86	206	12	11	93	63	25	24	32	23	1308*	1146
% of total cases	.....5.7		55.9		18.5		8.4		.9		6.4		2.		2.2		100.		
Deaths	.....	.....	.....	.....	1	.....	2	.....	2	.....	1	.....	1	.....	.....	.....	.....	4	.....

*Indicates one or more deaths included.

RELATIONSHIP OF AGE TO POISONING**AGE-GROUP BELOW 5**

In examining the tables it becomes apparent that the age and poisonings are directly linked. The fact that 1,888 of the total reported poisonings occurred in the age-group below 1 to 4, (actually 76.9 percent), is ample evidence that this age-group needs almost constant supervision. While this information, in relation to poisonings, extends and amplifies this need, it has long been recognized by parents, physicians, nurses and other persons concerned with the care of children that this age-group, through its adventurous proclivities in seeking, climbing, tasting and exploring, was peculiarly accident-prone. It is interesting to note that of the poisonings 1,071 occurred in males and 817 in females. The deaths were 1 male and no females, with the fatality rate being .05 percent.

AGE-GROUP 5-14

In this age-group there were 108 poisonings with 63 being males and 45 females. There were no deaths. This age-group accounted for only 4.4 percent of the total poisonings. It is interesting to note that while the males in the below 1 to 4 age-group accounted for 56.7 percent of the total poisonings in the age-group, the males in the 5-14 age-group accounted for 58.3 percent of the total poisonings.

AGE-GROUP 15-24

In this age-group there were 198 poisonings, with 141 being females and 57 being males; with the females accounting for 71.2 percent of the poisonings. The poisonings in the age-group accounted for 8.1 of the total poisonings. There were no deaths.

There has been a suggestion made that poisonings in the age-group 15-24 may not be accidental in its true sense, however, our experience shows that most of the incidents are accidental, generally being due to carelessness in not reading directions or understanding what the particular substance was designed to do.

AGE-GROUP 25-44

This age-group accounted for 176 or 7.2 percent of the total poisonings. Here again the females are in the lead with 107 or 60.1 percent of the total poisonings in this age-group. In examining the data, it is easily seen that 106 of the 176 cases were associated with Drugs & Medications for Internal Use. On the face of it this indicates that there may have been some abuse in the use of such drugs and medications. It should be sufficient to indicate that the great profusion of Drugs & Medications for Internal Use, available not only in drug-stores but also in other retail outlets, and the carelessness with which such materials are handled in the home, could easily account for a large proportion of the poisonings being definitely accidental. The mere fact that 60.1 percent of the victims were females only supports the well known fact that the females, mostly mothers, are more commonly in the home and are subjected to stresses and strains which the male escapes.

AGE-GROUP 45-UP

The poisonings in this age-group are 84 or 3.4 percent of the total poisonings reported. Of these 46 or 55 percent involved males. Here again Drugs & Medications for Internal Use with 44 cases was in the lead, with the other 40 cases being approximately evenly distributed amongst the other categories. Information gathered in relation to a number of these cases shows that many of them involved elderly persons, and it is entirely reasonable to assume that the confusion associated with illness and/or age caused either a mistake in identity of medications or an overdose of the particular product involved.

SUMMARY

In summarizing poisonings by age-groups, a further examination of Table II indicates that the group below 1-4 accounts for 1,888 of the total 2,454 poisonings or 76.9 percent. The age-group 5-14 accounts for 108 cases of poisonings or 4.4 percent of the total. In the age-group 15-24 there were 198 or 8.1 percent of the total poisonings, while in the age-group 25-44 there were 176 or 7.2 percent of the total. The age-group 45 and up with 84 poisonings accounted for 3.4 percent of the total. However, an examination by sex shows that in the age-group below 1-4, the 5-14 and 45 and up the males were the most common. In the age-group 15-24 and 25-44 the females predominated and accounted for approximately 66 percent of the poisonings in these age-groups.

ALL POISONINGS BY AGE-GROUPS & SEX

An examination of the Tables discloses the fact there is a definite relationship between the months and the number of poisonings occurring in each age-group. In a climate such as ours this relationship can be associated, particularly in the below 1-4 age-group, with the season of the year and type of weather prevailing.

While it would appear that certain months have a higher number of poisonings than others, it should be borne in mind that there is an enormous variety of substances which readily lend themselves to causing poisonings, and while there is ample evidence that Drugs & Medications for External Use, Drugs & Medications for Internal Use and Household Chemicals are the most available source for poisonings, there are many other poisons which under certain conditions become just as readily available.

DIVISION OF CANCER SERVICES

H. B. Mason, B.Sc., Business Manager

The three Cancer Clinics in the Province of Alberta have experienced a very busy year (1961) as the tables below will reveal:

1. Number of examinations made (Malignant and Benign) January 1 - December 31, 1961 is 26,511.

	New		Review		Total	
	1961	1960	1961	1960	1961	1960
Edmonton	3,030	2,816	10,564	10,739	13,594	13,555
Calgary	1,935	1,928	8,924	7,198	10,859	9,126
Lethbridge	576	569	1,482	1,468	2,058	2,037

It will be noted that the total number of examinations made in the Edmonton, Calgary and Lethbridge Clinics is 26,511 as compared with 24,718 in 1960; 22,075 in 1959; 19,445 in 1958; and 18,243 in 1957.

2. Number of examinations made where malignancy was proven 21,874 as compared with 20,143 in 1960 as shown in the following table:

	Edmonton	Calgary	Lethbridge	Total
1961	10,835	9,311	1,728	21,874
1960	10,994	7,597	1,552	20,143

3. EDMONTON CLINIC

New Malignant cases reporting to Clinic—1961	1,216
Previously Benign cases reporting to Clinic—1961	135
Total New Malignant cases reporting to Clinic in 1961	1,351
Non-Reporting Malignant cases by—	
Pathological report	178
Autopsy report	70
Reported by Vital Statistics	149
Total	397
Prior to 1953 Malignant cases reporting to Clinic for the first time in 1961	22
Cases treated elsewhere reporting to Clinic in 1961	59
Cases who developed a second malignancy in 1961	58

CALGARY CLINIC

New Malignant cases reporting to Clinic—1961	811
Previously Benign cases reporting to Clinic—1961	64
Total New Malignant cases reporting to Clinic in 1961	875
Non-Reporting Malignant cases by—	
Pathological report	95
Autopsy report	9
Reported from Vital Statistics	110
Total	214
Prior to 1953 Malignant cases reporting to Clinic for the first time in 1961	10
Cases treated elsewhere reporting to Clinic in 1961	85
Cases who developed a second malignancy in 1961	40

LETHBRIDGE CLINIC

New Malignant cases reporting to Clinic—1961	238
Previously benign cases reporting to Clinic—1961	9
Total New Malignant cases reporting to Clinic in 1961	247
Non-Reporting Malignant cases by—	
Pathology reports	19
Reported from Vital Statistics	38
Total	57
Prior to 1953 Malignant cases reporting to Clinic for the first time in 1961	0
Cases treated elsewhere reporting to Clinic in 1961	27
Cases who developed a second malignancy in 1961	3

The total number of New Malignant Cases discovered in Alberta in 1961 was **3,141**.

4. Number of examinations made on patients which proved Benign—

	Edmonton	Calgary	Lethbridge	Total
1961	2,759	1,548	330	4,637
1960	2,561	1,529	485	4,575

5.(a) The X-Ray Department of the Edmonton Clinic has had a particularly busy year as shown in the following tables:

Diagnostic Radiology

	No. of Films	No. of Pts.	No. of Exams.	Average No. of Exams per day
1961	26,188	6,504	9,629	38.5
1960	30,405	6,606	10,122	40.4
1959	27,338	5,036	7,840	33.8

Outside films reviewed:

1961—8,390 films on 606 patients
 1960—7,939 films on 654 patients
 1959—5,000-6,000 films on 508 patients

Non-standard Fluoroscopies: 1961—301
 1960—363
 1959—360

	G.I. Series	Large Bowel and Air Contrast	Urinary Tract	Tomographies
1961	640	(474-134) 608	205	292
1960	700	(611-137) 748	201	347
1959	853	(501-123) 624	201	345

Therapeutic Radiology

	1961	1960
New Patients treated with X-ray, Cobalt 60 or Cesium 137	639	725
Patients re-treated with X-ray, Cobalt 60 or Cesium 137	498	510
Patients treated with radium	112	99
	<hr/> 1,249	<hr/> 1,334

Treatments given by

Cobalt 60	7,972	7,331
Deep X-ray	1,383	1,955
Superficial X-ray	1,116	1,532
Cobalt 60 and Deep X-ray	984	916
Cesium 137	2,049	2,235
Total treatments	<hr/> 13,504	<hr/> 13,969
Radium Insertions, implants and moulds	153	150
Biopsies done at Clinic	61	88
Blood Counts done in Clinic Laboratory	7,789	7,976

5.(b) CALGARY CLINIC

Diagnostic Radiology

	No. of Films	No. of Pts.	No. of Exams.	Average No. of Exams per day
1961	9,020	2,899	3,231	12.8
1960	7,647	2,236	2,512	10.3

	G. I. Series	Large Bowel	Urinary Tract	Tomographies
1961	124	281	12	3
1960	123	212	0	4

Therapeutic Radiology

	1961	1960
New patients treated with X-ray, Cobalt 60 or Cesium 137	922	664
Patients re-treated with X-ray, Cobalt 60 or Cesium 137	247	125
Patients treated with radium	54	48
Total Patients treated at Clinic	<hr/> 1,223	<hr/> 837

Treatments given by

	1961	1960
Cobalt 60	4,193	5,991
Cobalt rotation	1,646	.....
Cesium 137	1,312	1,354
Superficial X-ray	1,426	1,262
Combination of Cobalt 60 and Cesium 137	14	.....
Total Treatments	<hr/> 8,591	<hr/> 8,607
Biopsies done at Clinic	63	38
Blood Counts done in Clinic Laboratory	5,672	5,226

6. NUMBER OF CASES SUPPLIED WITH THE FOLLOWING SERVICES

	Out-Patient Hospital Services		Radiation Therapy	
	1961	1960	1961	1960
Edmonton	367	315	1,249	1,334
Calgary	139	106	1,223	837
Lethbridge	10	6	60	101
	516	427	2,532	2,272

	Diagnostic X-Ray		Major Surgery		Exploratory Laparotomy	
	1961	1960	1961	1960	1961	1960
Edmonton	6,504	6,606	1,139	791	133	134
Calgary	2,918	2,236	519	398	83	71
Lethbridge	274	390	146	142	23	30
	9,696	9,232	1,804	1,331	239	235

	Breast Biopsies		Other Biopsies		Diagnostic Curettings	
	1961	1960	1961	1960	1961	1960
Edmonton	392	321	690	539	250	246
Calgary	237	213	535	436	123	159
Lethbridge	96	112	179	201	20	47
	725	646	1,404	1,176	393	452

	Encephalo- grams, etc.		Bronchoscopy and Esophagoscopy		Sigmoidoscopy	
	1961	1960	1961	1960	1961	1960
Edmonton	20	18	108	160	162	186
Calgary .....	.....	.....	42	38	7	14
Lethbridge .....	.....	.....	7	15	10	14
	20	18	157	213	179	214

	Cystoscopy		Investigations and Consultations		Laboratory Tests	
	1961	1960	1961	1960	1961	1960
Edmonton	335	292	201	178	8,043	8,345
Calgary	105	121	52	31	6,817	5,258
Lethbridge	52	59	7	5	137	132
	492	472	260	214	14,997	13,735

7. Since the opening of the Clinics in 1941 the total number of examinations made is 227,321.

DIVISION OF MEDICAL SERVICES

M. G. McCallum, B.Sc., M.D., D.P.H., Director

A change in the direction of this Division occurred in September with the retirement of Dr. A. Somerville as Deputy Minister, and the elevation of Dr. McCallum to that post. In December of 1961 Dr. F. S. B. Rodman took over as Director.

DIABETIC DRUG PROGRAM

The Department of Public Health continued to provide, without charge, insulin, to diabetic patients who are residents of Alberta. This program has been operative for about thirty years, requires a "means test" and application by the patient through his own physician.

On April 1st, 1959, this program, administered by the Division of Medical Services, was expanded to provide an oral hypoglycemic medication—"tolbutamide" for eligible patients who are capable of being treated with tolbutamide instead of insulin.

TABLE 1
PERSONS RECEIVING TOLBUTAMIDE AND INSULIN

Year	Insulin	Tolbutamide	Total
1959	314	81	395
1960	334	188	522
1961	345	272	617

PHENYLKETONURIA THERAPY PROGRAM

On April 1st, 1960, the treatment of phenylketonuria was brought under the Special Drug Program of this Division.

Phenylketonuria is a congenital defect found in a very small percentage of newborn infants, which prevents the proper metabolizing of certain foods. This results in mental deficiency if not treated early and with special dietary preparations. These preparations are provided free. If purchased by the families involved the cost would be about \$70.00 per month.

Five children were handled through this program during 1961 and all have progressed favourably. One of these children will reach the age of six years in September 1962, and should not require the diet thereafter.

RHEUMATIC FEVER PROPHYLAXIS

This program has been continued throughout the past year on the same basis as previously reported. The program was started on June 30th, 1958, upon which date the first despatch to eligible children was made, and the growth to date is as follows:

	Applications Approved and First Supply Sent	Follow-up Supplies
June 30, 1958 to Dec. 31, 1958	494	250
Jan. 1, 1959 to Dec. 31, 1959	433	1,545
Jan. 1, 1960 to Dec. 31, 1960	391	2,933
Jan. 1, 1961 to Dec. 31, 1961	383	2,708
Total	<u>1,701</u>	<u>7,436</u>

During the past three and one-half years that the program has been in operation a total of 1,701 applications have been approved and a total of 7,436 follow-up supplies requested and sent.

To the end of December, 1961, 158 patients have been suspended by reason of having reached the eighteenth birthday.

The data collected on initial application and renewal forms is compiled for statistical studies relative to rheumatic fever morbidity, the effect of continuous prophylactic treatment over a period of time, etc. A preliminary review indicated a possibility of 68 recurrences up to December, 1960. A similar review of the past twelve months indicates a further 30 recurrences reported. Examination of these reports reveals that only five were patients who had history of recurrences reported in previous years. In a large proportion of the 107 recurrences so far reported, the medical signs of recurrence have been minor.

Under this program all eligible children up to their eighteenth birthday are provided with 200,000 units of penicillin twice daily. For those patients who are sensitive to penicillin an alternative prophylactic medication, triple sulpham, is provided. The child receives one 7½ gr. tablet twice daily. To date there are 16 cases receiving this treatment, of this number, 4 developed sensitivity since coming under the prophylactic program.

EMERGENCY AIR AMBULANCE SERVICE

This service, now in its third year, has provided about the same number of flights as in the previous two years. Seriously ill patients, living in inaccessible areas are transported to hospital in the two larger cities. If the patient can be transported satisfactorily by car, ambulance or rail, the air service is not available.

TABLE 2

Year	Flights	Patients	Adults	Children	Premature Infants
1959	55	53	....	....	....
1960	44	52	32	20	....
1961	50	50	31	19*	13

*of the 19 children carried, 13 were premature

POLIOMYELITIS TREATMENT PROGRAM

Under the provisions of the Poliomyelitis Sufferers Act and Regulations, residents of Alberta who suffer from poliomyelitis and its subsequent effects may obtain such treatment services as, in-hospital medical services subsequent to the acute fourteen-day isolation period, surgical services, and respirator care where indicated, from the day of onset of the disease. Orthopaedic appliances are provided. Out-patient physiotherapy, muscle tests, and radiological examinations and other assessment procedures are also available. Out-patient speech therapy and occupational therapy may be provided.

Admissions to hospital, and hospital days, are as follows:

TABLE 3
HOSPITAL ADMISSIONS 1959-1961

Year	New Admissions	Re-admissions	Total
1959	135	143	278
1960	304	172	476
1961	88	212	300

HOSPITAL DAYS 1959-1961

Year	Isolation	Post-Isolation	Respirator	Total
1959	536	17,543	4,258	22,337
1960	1,738	28,196	1,925	31,859
1961	263	16,170	7,572	24,005

TABLE 4

PROVINCIAL EXPENDITURES FOR POLIOMYELITIS TREATMENT SERVICES, 1959-1961

Expenditure	1959	1960	1961
Post Isolation Days @ 60¢	\$ 10,528.80	\$ 16,827.00	\$ 9,702.00
Respirator Days @ \$2.00	8,516.00	3,876.00	15,144.00
Surgical Procedures	28,104.95	25,007.40	27,631.30
Medical Supervisor	3,600.00	2,400.00	2,400.00
Appliances and Out-Patient Services....	32,120.37	43,393.92	47,609.03
Home Care Program	9,884.15	13,826.99	21,519.28
Total	\$ 92,754.27	\$105,331.31	\$124,005.61

It will be noted from the foregoing data that the total of new admissions to hospital in 1961 was only 28.95% of the 1960 total. This can be traced to the decreased incidence of poliomyelitis in 1961. Re-admissions increased by 19%.

Operative procedures in 1961 totalled 182 compared to 155 in 1960. Post-isolation care was almost completely provided in the University of Alberta, Alberta Children's, and the Calgary General Hospitals.

There was an increase in expenditure under the Home Care Program of \$7,692.29, equipment being provided for 14 persons. The total number of patients returned to their homes by December 1961 was 27.

TABLE 5
APPLIANCES AND OUT-PATIENT SERVICES 1959-1961

Services	1959		1960		1961	
	No.	Expenditure	No.	Expenditure	No.	Expenditure
IN-PATIENT						
Appliances	431	\$25,497.42	882	\$32,139.62	773	\$34,170.55
OUT-PATIENT						
Appliances	36	2,774.55	44	3,773.55	49	4,219.63
Physiotherapy	715	1,454.00	....	4,455.50	1,903	6,126.10
Muscle Tests	143	207.50	22	103.00	42	163.25
Radiology .....	....	2,093.50	....	2,806.50	....	2,774.50
Other (Cast Room, etc.)..	....	93.40	....	115.75	....	155.00
Total .....	....	\$32,120.37	....	\$43,393.92	....	\$47,609.03

There was an increase in expenditure for in-patient appliances and out-patient services in 1961. It will be noted that the unit cost for physiotherapy at hospital out-patient departments has markedly increased.

TREATMENT SERVICES FOR SOCIAL SERVICE RECIPIENTS

The Hospitalization and Treatment Services Act provides for treatment services for the Social Services Group. The services provided are medical, dental, optical, chiropractic, and certain limited services such as physiotherapy and podiatry, the latter require prior approval by the Medical Services Division.

Complete hospitalization is provided by the Division of Hospital Services under The Hospitalization Benefits Plan.

During the year the Department of Public Welfare introduced Social Allowance and Social Assistance, this necessitated an alteration in the categorization of the Social Service Recipient Groups. For statistical purposes these groups are now divided as follows:

Group A: (Over sixty years of age) This includes individuals in receipt of Old Age Security who were receiving Alberta Supplementary Allowance; Old Age Assistance; and Widow's Allowance.

Group B: Persons in receipt of Blind Pension and Disability Pension.

Group C: (Under sixty years of age) Individuals in receipt of Mother's Allowance.

Group D: Government Wards, added to the Social Services Group, November 1961. By December 31st, 1961 only 1,450 had been added, and these have not been included for statistical purposes under the Table.

For comparative purposes tables showing previous year's statistics have been re-grouped.

In 1961 total social service recipients increased by 3,699 over 1960. This overall increase was 7.6% compared to the population increase of 3.81%.

Table VI shows comparative figures for Social Service Recipient Categories for 1959, 1960 and 1961, but excluding newly formed Group D.

TABLE 6
SOCIAL SERVICE RECIPIENTS AS OF DECEMBER 31st, 1959, 1960, 1961

Categories	Recipients			Spouses			Dependent Children			Total		
	1959	1960	1961	1959	1960	1961	1959	1960	1961	1959	1960	1961
A	28,478	29,691	29,636	3,505	3,620	3,630	792	882	875	32,775	34,193	34,141
B	3,694	4,246	4,938	776	846	1,091	1,062	1,316	1,921	5,532	6,408	7,950
C	2,164	2,676	2,974	.....	.....	7	5,194	5,574	7,478	7,358	8,250	10,459
	34,336	36,613	37,548	4,281	4,466	4,728	7,048	7,772	10,274	45,665	48,851	52,550

The average number of recipients in the province during the calendar year 1961 was 50,459, an increase of 2,841 over 1960.

Provincial expenditures for treatment services for Social Service Recipients in the calendar years 1960 and 1961 were \$1,490,462.50 and \$1,609,090.93 respectively, showing an increase in 1961 of \$118,628.43.

The per capita expenditure for the group in 1961 was \$30.62 as compared to \$31.30 in 1960. Per capita payments to the College of Physicians and Surgeons were \$24.00 per year, to the Alberta Dental Association \$4.80 per year, and 70c per capita to the Alberta Chiropractic Association for the period June 1st to December 31st, excluding Government Wards.

TABLE 7
PROVINCIAL EXPENDITURES BY TYPE OF SERVICE—
CALENDAR YEARS 1960-1961

Type of Service	1960	1961	Increase or Decrease
Medical Care	\$1,143,144.00	\$1,211,012.00	+ 5.61%
Dental Care	228,568.80	242,202.40	+ 5.96%
Optical and Optometric Services	116,354.70	117,602.13	+ 1.07%
Chiropractic Services (From June 1st, 1961)		35,753.40	
Other Treatment Services	2,395.00	2,521.00	+ 5.25%
Total	\$1,490,462.50	\$1,609,090.93	

1. Medical Care for Social Service Recipients

Through an agreement between the Department of Public Health and the College of Physicians and Surgeons of Alberta, the practising members of the College provide complete medical care for the Social Service Recipient Group. The payment is \$24.00 per capita per year on a basis of \$2.00 per capita per month.

These monies are placed in a Pensioner's Medical Fund and are administered by the College. Administrative cost in the fiscal year April 1st, 1961 to March 31st, 1962 was 3.46% of the assessed value.

Individual doctors' accounts are assessed according to the College's minimum schedule of fees, and an initial payment of 50% is made. The remainder of the fund is pro-rated at the end of the fiscal year according to the assessed value of the accounts submitted, and a further payment is made.

In 1961 the payment was 63% of the assessed value of the accounts received. The difference is a sizeable personal contribution made to the medical care of social service recipients by the doctors of Alberta.

TABLE ■
SOCIAL SERVICE RECIPIENTS MEDICAL SERVICES UTILIZATION
APRIL 1st, 1961 - MARCH 31st, 1962

Type of Service	Recipient		Spouse		Chil- dren
	No. of Services	\$	No. of Services	\$	
GROUP 'A'					
Office	59,878	\$ 212,371.25	6,342	\$ 22,817.00	1,563
House	18,334	96,944.00	811	4,854.00	257
Hospital 'A'	17,623	38,722.00	8,521	18,569.00	1,160
Hospital, Chronic	28,963	47,424.75	1,988	8,699.00	49
Mileage	3,262	6,832.50	198	376.50	104
Laboratory	5,869	9,576.25	1,596	1,008.50	104
Surgical Procedures	18,689	39,720.00	1,233	2,855.50	46
Refraction	3,686	38,940.00	174	2,529.50	78
X-ray	1,633	15,518.00	594	6,072.50	66
Anaesthetic	5,071	50,929.25	150	4,317.00	75
Cards not read	1,515	1,102.00			
Totals	320,801	\$1,187,662.30	19,320	\$ 89,697.50	4,415
Average cost per procedure covered		\$3.70		\$4.60	
Average cost per individual covered		\$3.34		\$2.06	
GROUP 'B'					
Office	10,545	\$ 53,785.25	1,560	\$ 5,959.25	1,659
House	18,734	82,456.00	1,310	640.00	133
Hospital 'A'	24,745	45,929.25	1,405	3,582.00	1,313
Hospital, Chronic	2,048	3,750.50	3	9.00	
Mileage	248	1,529.50	120	197.50	3
Laboratory	6,673	10,575.00	381	7,014.50	190
Surgical Procedures	2,500	48,223.50	49	825.25	12
Refraction	633	7,572.00	33	330.00	42
X-ray	1,900	1,865.00	136	1,407.00	68
Anaesthetic	760	7,814.00	45	1,366.00	38
Cards not read	321	5,351.00			
Totals	44,407	\$170,788.75	3,872	\$ 21,208.50	2,864
Average cost per procedure covered		\$3.85		\$5.47	
Average cost per individual covered		\$3.00		\$1.74	
GROUP 'C'					
Office	6,031	\$ 21,817.50	25	\$ 87.00	5,701
House	513	2,912.50	23	14.00	1,104
Hospital 'A'	2,536	6,351.50	23	72.00	2,360
Hospital, Chronic	56	113.00			3
Mileage	7	31.00			482
Laboratory	577	1,031.00	3	30.00	32
Surgical Procedure	1,287	27,383.00			1,222
Refraction	359	3,807.25			281
X-ray	211	1,915.00	1	20.00	93
Anaesthetic	276	2,856.00	1	13.00	236
Cards not read	183	5,287.50			
Totals	12,338	\$ 76,783.75	55	\$ 238.00	12,269
Average cost per procedure covered		\$6.22		\$4.33	
Average cost per individual covered		\$2.56		\$3.97	
GROUP 'D'					
Office	313	\$ 1,240.00			
House	135	694.00			
Hospital 'A'	249	588.00			
Hospital, Chronic					
Laboratory	36	7.00			
Surgical Procedure	146	2,480.00			
Refraction	54	414.00			
X-ray	38	339.00			
Anaesthetic	18	587.00			
Cards not read		3.00			
Totals	997	\$ 6,689.00			
Average cost per procedure covered		\$6.71			
Average cost per individual covered		\$3.87			
Total Costs and Services					
GROUPS A, B, C, D	378,543	\$1,441,923.80	23,447	\$111,144.00	19,548
Average cost per procedure covered		\$3.81		\$4.74	
Average cost per individual covered		\$3.17		\$2.00	

TOTAL SERVICES RENDERED 471,535
Total Services Cost \$1,666,868.80
Average cost per procedure covered \$3.99
Average cost per individual covered \$2.65

In 1961 the province expended \$1,211,012.00 for medical services as compared to \$1,143,144.00 in 1960. This was an increase of 5.61%.

2. Dental Services for Social Service Recipients

Payment to the Alberta Dental Association continued throughout 1961 at 40c per capita per month. Routine dental care is provided to all recipients except as follows: New dentures and partial plates are provided at half cost to eligible individuals. Posterior bridge work is not provided. Each dentist receives payment in full for other services provided to the Social Service Recipient Group on submission of his accounts to the Alberta Dental Association. In 1961, the province paid to the Alberta Dental Association for dental services \$242,202.40 as compared to \$228,568.80 in 1960, this was an increase of \$13,633.60 or 5.96%.

Table 9 shows the utilization of dental services by Social Service Recipient Groups during the calendar years 1959, 1960, 1961.

TABLE 9
SOCIAL SERVICES RECIPIENTS UTILIZATION OF DENTAL SERVICES
BY GROUPS AND YEARS—1959-1961

GROUP	Cases Treated			% of Recipients and Dependents	Disbursements			
	1959	1960	1961		Total for Group	Average per Case	Total for Group	Average per Case
					1960	1960	1961	1961
A Recipients	3,302	3,400	3,225	10.86	\$ 64,220.34	\$18.88	\$ 60,980.35	\$18.91
Dependents	582	564	659	14.66	12,006.50	21.24	14,788.75	22.44
B Recipients	971	1,189	1,260	27.60	25,542.85	21.48	26,283.00	20.86
Dependents	409	501	655	26.00	11,647.50	23.24	14,191.00	21.67
C Recipients	986	1,083	1,319	48.80	24,450.50	22.58	30,970.50	23.48
Dependents	2,594	2,808	3,525	55.99	63,131.50	22.48	80,241.50	22.76
Total	8,844	9,545	10,643	21.09	\$200,999.19	\$21.06	\$227,455.10	\$21.37

The dental services were used by 1,098 more people than in 1960, of this total 953 were in the Group C category. The average disbursement per case increased by 31c per case. Payments made by the Alberta Dental Association to the practising dentists during 1961 were \$242,202.40. Administrative costs were \$19,006.86 or 7.85%.

3. Optical Services for Social Service Recipients

The total claim for glasses approved in 1961 was 8,338 at a cost of \$82,287.13. This represents a decrease of 185 claims and of \$393.57 in payments.

Comparative data for eligible recipients is shown in Table 10.

TABLE 10
SOCIAL SERVICE RECIPIENTS UTILIZATION AND COSTS OF OPTICAL SERVICES
1957 - 1961

Year	Average Number of Recipients	Number of Accounts	% of Recipients Obtaining Glasses	Total Cost of Glasses	Cost per Account
1957	36,620	6,901	18.8	\$63,949.96	\$9.27
1958	40,382	7,766	19.2	75,195.90	9.69
1959	44,051	7,890	17.9	77,225.30	9.79
1960	47,618	8,523	17.9	82,680.70	9.70
1961	50,459	8,338	16.5	82,287.13	9.88

The percentage of recipients obtaining glasses was slightly lower than in 1960 and the cost per account was 18c higher.

The total payment to optometrists was \$35,315.00 for 6,010 claims, an increase of \$1,641.00 or 4.81% in payments and an increase of 260 or 4.3% in claims.

Payments to the medical eye specialist is part of the overall agreement for pensioner medical care made with the College of Physicians and Surgeons.

4. Chiropractic Services for Social Service Recipients

In June, 1961, an agreement was concluded between the Alberta Chiropractic Association and the Department of Public Health whereby, in return for a per capita payment of \$1.20 per year by the Department, the Alberta Chiropractic Association provides chiropractic care for all Social Service Recipient Groups except Group D. The total payment to the Association from June 1st to December 31st, 1961, was \$35,753.40.

5. Other Treatment Services

These services include physiotherapy, podiatry and chiropractic prior to the agreement with the Alberta Chiropractic Association on June 1st, 1961.

Such services are only provided upon the recommendation of the patient's physician and the approval of the Director of Medical Services, Department of Public Health. Expenditure by the Department amounted to \$2,521.00. This was an increase of \$126.00 over 1960. Expenditures for individual services were as follows:

Physiotherapy	\$2,287.00
Chiropraxy	234.00
	\$2,521.00

Out-patient physiotherapy, received at hospitals is part of The Hospitalization Benefits Program and is not included in the above.

THE SCHOOLS FOR NURSING AIDES

These schools, started under The Nursing Aides Act, 1944, were intended to give an opportunity for a professional career in nursing to women who might not possess the necessary academic qualifications to enroll in a regular School of Nursing.

This program has been an unqualified success from its beginning and in 1958 a second school was opened in Edmonton, the first school having been started in Calgary in 1948. There is an increasing demand for the services of these people occasioned by the increase in size and number of acute and auxiliary hospitals and the decreasing time the professional nurse has to spend with the patient owing to the growing amount of time she must spend on technical and administrative matters. The field of bedside nursing care is becoming the nursing aide's—and she is doing it very well.

TABLE 11
TOTAL NURSING AIDE GRADUATES 1952-1961

1952	216	1957	239
1953	208	1958	281
1954	256	1959	451
1955	270	1960	449
1956	254	1961	463

A total of 3,821 nursing aides have been certified to date. This figure includes those persons certified under Section 16 of the Regulations governing nursing aides in the province.

THE NURSING RECRUITMENT PROGRAM

With the expansion of Alberta's health program there is a continuing need to bring the supply of qualified nursing personnel into better balance with the demands for nursing service.

Role of Recruitment

The program of Nursing Recruitment has two major phases. It provides a background of information and material for use in provincial programs and gives assistance to local groups in establishing a program that will encourage higher enrollment in all nursing schools.

Objectives

The objectives are summarized as follows:

- (1) to stimulate interest in nursing careers,
- (2) to reach parent-teacher and high school groups,
- (3) to make doctors, nurses and high school teachers and counsellors aware of the prerequisites for admission to nursing schools and of the employment opportunities for graduates of the various programs.

Alberta has twelve schools for professional nursing, approved by the General Faculty Council of the University of Alberta. These include one five-year program at the baccalaureate level, one four-year course that offers a diploma in general nursing with added preparation in psychiatric nursing, and eleven three-year programs leading to a diploma in nursing.

Psychiatric nurses are prepared in two Mental Institutes, operated by the province.

Activities

The preparation of materials used in recruitment and the co-ordination publicity designed to keep nursing before the general public is the hub around which recruitment activities revolve.

Up to date information for release via radio, television and the press is prepared and circulated.

This year approximately 30,000 pamphlets were distributed. Table top displays, posters, films and photographs were used to draw attention to courses in nursing.

The Director of Nursing Recruitment attended 26 Career Days and selected nurses to visit the remaining schools.

THE LABORATORY AND X-RAY SCHOOL

This school was started by the Department of Public Health in 1954 to supply a technician trained in Radiology and Diagnostic Laboratory techniques to smaller hospitals who would be economically unable to hire two such individuals, and whose work load would not justify it.

A large number of enquiries is received—204 in 1961—indicating a continuing and increasing interest in this training. Since this is a relatively restricted field, a balance between supply and demand has been achieved and we feel should be maintained—by graduating about 20 students per year.

During 1961 the external training part of this course was extended by two weeks in which the student works in a rural hospital under the guidance of a graduate of the course. This has proved to be very valuable.

There have been many requests for our technicians to perform certain other tests, specifically, glucose, blood urea nitrogen, serum bilirubin and prothrombin time. The school term commencing in October, 1962 will be increased from six to seven months to include instruction in these tests.

At December 31st, 1961, there were 20 students in training with positions awaiting them. To that date 119 students had been trained, of these 62 were active in rural hospitals, 10 had advanced to a higher degree (Registered Technician), and 13 were active in clinics, etc.

DIVISION OF SOCIAL HYGIENE

P. L. Rentiers, M.D., Director

The administration and policy of the Division remained unchanged during 1961. The clinics all reported a busy year and there has been a re-emphasis on health teaching aimed not only at reducing the number of repeat infections but at the development of attitudes which will help the patients attain optimum health.

There has been a slight elevation in the rate of gonorrhoeal infections over 1960 but a significant drop in syphilis both in the early infectious and late phases. Several of the early cases of syphilis gave a homosexual contact as the origin of infection. An increase in homosexual activity has been noted by other Venereal Disease Control agencies across the country, but this is the first time that we have felt that it is becoming a problem in Alberta.

Penicillin is still the drug of choice in the treatment of both gonorrhoea and syphilis, and, while there does appear to be a large number of persons sensitive to this type of medication, with caution we have experienced no great difficulty from its use so far.

Once again we gratefully acknowledge the continued cooperation which we receive from the private physicians, the various Public Health Agencies, the City and Provincial Welfare Departments, the Royal Canadian Mounted Police and the local Police.

The statistical report of our Division is as follows:

DIVISION OF SOCIAL HYGIENE
ALLEGED SOURCES OF OR CONTACTS TO VENEREAL INFECTION
JANUARY 1, 1961 - DECEMBER 31, 1961

	Reported Contacts with Sufficient Information for Investigation			Reported Cases of Venereal Infection with Insufficient or No Information Concerning Contacts
	Number Reported	Number Located	Number No Action Taken	
Totals	3,115	2,819	87	1,163
Residential Status				
Alberta	2,878	2,646	74	.....
Non-Alberta	131	71	4	.....
Northwest Territories	106	102	9	.....
Agents Forwarding Information				
Private Physicians	872	802	71	444
Armed Forces	118	98	3	31
Provincial Clinics	1,959	1,811	11	688
Other Provinces	166	108	2	.....

EPIDEMIOLOGICAL INVESTIGATIONS CARRIED OUT BY DIVISION OF SOCIAL HYGIENE

I. Reported Contacts to Venereal Disease

Unit	Processed	Investigated	No Action Taken	Not Investigated Insufficient Information	II. Delinquents		III. Miscellaneous
Edmonton Clinic	1,936	1,569	.....	350	1,028	187
Calgary Clinic	1,415	1,369	.....	46	85	101
Lethbridge Clinic	99	89	.....	10	3	146
Mobile Clinic	40	39	.....	1	1	26
Head Office	4,365	3,115	87	1,163	.....	527

PROVINCIAL GAOL, Lethbridge, Alberta.

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
	Gonorrhoea (All Forms).....							2		8			
Syphilis Acquired—Latent											1		1
TOTALS							2		8		1		11

Number of Cases of Syphilis—Male 1 1
 Number of Cases of Gonorrhoea—Male 10 10
 Number of Prisoners Admitted 2,515
 Number and Results of Serological Tests for Syphilis 900 of which 9 were positive

SPY HILL GAOL, Calgary, Alberta

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
	Gonorrhoea (All Forms).....									1			
TOTALS									1				1

Number of Cases of Gonorrhoea—Male 1 1
 Number of Prisoners Admitted 2,711
 Number and Results of Serological Tests for Syphilis 1,750 of which 0 were positive

MOBILE CLINIC—Lac la Biche, McMurray, Fort McKay, Chard, Athabasca and Surrounding Areas.

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
	Syphilis Acquired—Secondary									1			
Acquired—Latent									2				2
TOTALS									1	2			3

Number of Cases of Syphilis—Male 2; Female 1 3
 Number and Results of Serological Tests for Syphilis 342 of which 95 were positive
 Total Number of Treatments Given 15

PRIVATE PHYSICIANS REPORTING CASES

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
	Gonorrhoeal Ophthalmitis												
Gonorrhoea (All Forms).....			2	2	10	65	56	424	61	24	15		659
Syphilis—Congenital					1		1	1					3
Acquired—Primary							2	15					17
Acquired—Secondary							3	3	6	7	1	1	21
Acquired—Latent							4	12	16	2			34
Acquired—Tertiary (Neurosyphilis)									3	1			4
TOTALS			2	3	10	68	66	461	85	27	17		739

*(Adult)

Number of Cases of Syphilis—Male 44; Female 35 79
 Number of Cases of Gonorrhoeal Ophthalmitis—Male 0; Female 1 1
 Number of Cases of Gonorrhoea (All Forms)—Male 515; Female 144 659
 Number of Doctors in the Province Receiving Consultative Service 123

DEPARTMENT OF PUBLIC HEALTH

NEW CASES OF SYPHILIS AND GONORRHOEA REPORTED IN ALBERTA—1961
 Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Chancroid									1				1
Gonorrhoeal Ophthalmitis												1*	1
Gonorrhoea (All Forms)			2	2	11	150	207	1768	531	24	15		2710
Syphilis—Congenital				1		1	1	1					4
Syphilis—Primary							2	30	2				34
Syphilis—Secondary							3	4	15	17	1	1	41
Syphilis—Latent							6	23	23	3			55
Acquired—Tertiary (Neurosyphilis)									3	1			4
Acquired—Tertiary (Other)										1			1
Type Undetermined									1				1
TOTALS			2	3	11	154	220	1842	575	28	17		2852

* (Adult)

Total Cases of Syphilis—Male 82; Female 58	140
Total Cases of Chancroid—Male 1; Female 0	1
Total Cases Gonorrhoeal Ophthalmitis—Male 0; Female 1	1
Total Gonorrhoea (All Forms)—Male 1,944; Female 766	2,710

TOTAL NUMBER OF CASES REPORTED BY VARIOUS CLINICS OF THE DIVISION
 OF SOCIAL HYGIENE

Sex	Syphilis	Chancroid	Gonorrhoea	Totals
Male	38	1	1,429	1,468
Female	23	0	622	645
TOTALS	61	1	2,051	2,113

CASES REPORTED BY DOCTORS AND MILITARY AUTHORITIES

	Private Physicians	Armed Forces	Totals
Syphilis	78	1	79
Gonorrhoeal Ophthalmitis	1	0	1
Gonorrhoea (All Forms)	527	132	659
TOTALS	606	133	739

NEW CASES OF SYPHILIS AND GONORRHOEA REPORTED IN NORTHWEST
 TERRITORIES—1961

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms)							13	4	55	15	7	1	95
Syphilis													
Acquired—Primary									1				1
Acquired—Latent									1	2	1		4
TOTALS							13	4	57	17	8	1	100

Number of Cases of Syphilis—Male 3; Female 2	5
Number of Cases of Gonorrhoea—Male 75; Female 20	95

REPORT OF THE PROVINCIAL LABORATORIES

R. D. Stuart, M.D., Director

During 1961 the Provincial Laboratories carried out 687,105 examinations, an increase of 68,864 over 1960. This increase amounts to 54,096 for the Edmonton laboratory and 14,768 for the Calgary laboratory, the relative percentage increases being 12 and 10, still approximately equal in each laboratory. In both laboratories the increase was general in all sections but in Edmonton it was particularly notable in virological examinations.

SPECIAL TRENDS

A dramatic increase, from 2,420 to 5,964, has been noted in the examinations for tissue malignancies as revealed by exfoliative cytology. The increase was most marked in the Edmonton laboratory, since Calgary had already shown a considerable rise in the preceding year. In the two laboratories 99 specimens (1.7%) were reported positive or suspicious. In these examinations superficial body cells readily obtained from natural fluids or secretions reveal microscopic changes related to underlying malignant processes. The specimens can easily be obtained during ordinary office examinations, and the laboratory investigations, though requiring special facilities, are less time-consuming than those of normal tissue histology. Though exfoliative cytology suggests rather than proves malignancy the demand for such examinations now constitutes a definite trend. Particularly is this true in the gynaecological field, where ordinary clinical examination may fail entirely to reveal an early carcinomatous change in the female cervix. Of the 99 smears considered suspicious the majority came from the vagina but only in 32 cases have complete clinical and adequate biopsy records been obtained to date. Of these, eight were proved non-malignant. 11 found malignant were already to some degree clinically suspect, but 13 clinically unsuspected cases were proved to have early cancer. To detect early unsuspected cancer is particularly gratifying to the pathologist, and since operation is likely to be so successful at this stage, it also tends to create clinical enthusiasm for the technique. How far this enthusiasm may carry demand remains to be seen, but there is a necessary limit imposed by the amount of available money and even more importantly, by the time of available experts. The multiplication even of simple examinations carries its own dangers. For an expert to maintain critical judgement in studying 98 negatives in order to find two positives may be feasible, but to do the same over 998 negatives—as might easily happen without some critical clinical selection of cases—is simply not possible.

The increased demand for statistical data is probably an inevitable trend when Federal and other grants must be related to individual services. Unfortunately, such data rarely correspond with those normally kept by laboratories which relate to the incidence and epidemiology of disease or to the efficiency of laboratory methods. Therefore, their collection can often seriously interfere with laboratory work, because of the diversion of skilled technicians from technical work to statistical analyses. For some time the Edmonton laboratory has been experiment-

ing with an IBM card system, which is adapted to mechanical sorting for data collection. This is being introduced into the Calgary laboratory and may reduce the wastage of valuable staff time of which Dr. Shute now complains bitterly.

NEW OR SUPPLEMENTARY SERVICES

The work carried out in the Edmonton Virus Laboratory must still come under this heading because of the continued increase in the variety and complexity of the services offered. The number of examinations increased from 8,486 to 19,173 but more importantly, the virus isolation service was increased to include entero-viruses other than polio. This was particularly fortunate because of the high incidence of such virus infections in Alberta during 1961. 114 cases of possible neurotropic virus infections were investigated, and 44 (38%) yielded significant results. A few polioviruses, mainly Type 3, were isolated from sporadic scattered cases, but Coxsackie B5 and A23 were much more numerous, particularly in the August and September periods. Many patients showed signs of meningeal irritation or evidence of muscle weakness, but other symptoms were often more prominent. Of 27 cases of pleurodynia 14 (51%) yielded viruses of the Coxsackie B group. In many instances individual cases investigated represented small outbreaks.

Influenza viruses were isolated from a number of individuals also representing small localized outbreaks. Influenza A2 (Asian) was most common in the Province, and was also isolated from a significant outbreak in Resolute Bay, N.W.T. Not all diseases clinically resembling influenza were caused by influenza virus. In May, Coxsackie A4 was determined to be the cause of an outbreak of acute respiratory disease in Fort Smith, N.W.T. In August Coxsackie B4 was isolated from an "influenza" case in Penhold, and Echo 15 from a respiratory infection in Fort Assiniboine. Later Coxsackie A23 was isolated from an influenzal case in Edmonton, and an adenovirus from an outbreak of respiratory disease in Griesbach barracks.

A small outbreak of primary atypical pneumonia, several cases of mumps encephalitis or meningitis, and possible instances of scrub-typhus and western equine encephalomyelitis were among the more interesting of other investigations.

REGULAR SERVICES

Pathology

During the year, 33,126 blocks of tissue removed during surgery were examined and reported on in our two laboratories. The total is about the same as last year, but it actually represents a small increase in Edmonton and a small decrease in Calgary. The decrease is due to policy changes initiated by the Alberta Society of Pathologists, which led Dr. Shute to limit the number of examinations on routine tonsils and adenoids from young children to allow for more effective allocation of his time to the increased number of more important specimens. This change was not specifically reflected in the Edmonton figures because of the much greater volume of its work and its closer association with major surgery and larger hospitals. Cancer was detected in 1,475 persons—approximately 7% of those examined.

Dr. Macgregor, who is the head of the University Department of Pathology as well as Provincial Pathologist, draws attention to an important point which is seldom appreciated—the fact that the large number of tissues received at the Edmonton Provincial Laboratory continued to provide an excellent source of teaching material for resident trainees in pathology and other specialties. On such training the future supply of medical laboratory specialists in this province depends very largely.

Bacteriology

The increase in *Salmonella thompson* infections anticipated in last year's report has been adequately confirmed. In 1961 the organism was isolated from 241 specimens (77 cases), as compared with 93 specimens (29 cases) last year. No special outbreak was encountered and the clinical conditions were generally mild. It seems likely that the peak of this organism's importance is now passed. On the other hand, the discovery of 20 cases of typhoid infection cannot be regarded with equanimity. Certainly some of the cases came from outside the Province; a small outbreak on Holman Island in the Arctic accounting for two cases and two carriers—one an 86-year-old Eskimo woman—but others came from much closer areas. For instance, an outbreak in Edmonton involved seven or more people. This was traced to a carrier who had been making cheese for his Italian friends in the basement of his home and incidentally demonstrates how easily human irresponsibility can escape sanitary surveillance.

The continued incidence of *C. diphtheriae*—especially in the Indian population—must be emphasized. Calgary recorded 10 isolations, eight of them aural infections, all among the Blood Indians at Cardston. Edmonton had 8 positive throat infections and 2 aural infections among Indians in the Saddle Lake area, also 2 cutaneous diphtheria cases from Hobbema. Practically all strains were Gravis type 2, indicating a considerable infection focus in this segment of our population.

The continued increase in both laboratories in the examinations for tuberculosis may appear unexpected, and the difference in percentages of recorded positives in the two areas may seem odd. The Edmonton laboratory found 4% of smears positive by microscopy, the Calgary laboratory 0.8%, and in the examination of specimens by all methods including culture and guinea pig inoculation the former laboratory found 7% positive, the latter 4.2%. The Edmonton figures are swollen, however, by material from the Northwest Territories, much of it from new cases with a high incidence of positives, whereas the Calgary laboratory is dealing largely with local chronic cases. Both laboratories find themselves more and more occupied in tests for cure which often require a greater number of examinations than do tests for diagnosis, and also in determining the sensitivity of strains of tubercle bacilli to chemotherapeutic substances in order to assist treatment. Figures from the Edmonton laboratory show that 77% of the strains tested were sensitive to the three commonly used substances, 3% were resistant to all of them, and of the remaining 20% which were resistant to one or more than one chemotherapeutic substance, 13 were resistant to Streptomycin, 15 to Isoniazid and 12 to PAS.

The 20% increase to 12,305 in the Edmonton gonococcal cultures, and the 70% increase to 1,023 in the comparable Calgary examinations may not necessarily indicate an absolute increase in the incidence

of this disease, but it certainly indicates an increased clinical reliance on this method of diagnosis. In Edmonton it is now regarded as the main diagnostic procedure in all female cases, but in Calgary it is used chiefly in problem cases and in tests for cure.

The relative importance of various organisms in current serious disease is suggested in the results of positive blood cultures. Of the 78 organisms isolated from bacteraemic cases in Edmonton, 25 were Gram negative coliform bacilli of various species, whereas *Staphylococcus aureus* and streptococci, long most important, now amounted to 22 and 12 respectively. This change-over is almost certainly associated with the ready availability of antibiotics which are in general more effective against the Gram positive organisms.

The Mycology Sections of both laboratories continued to be consulted extensively by practitioners. In this report a special table is appended to show the wide range of organisms encountered. The figures are derived from the Edmonton Central Reference Laboratory under Dr. Carmichael, and have been carefully selected to exclude isolations with no pathological significance. Comparison with the 1961 figures show that even the most unusual infections continue to recur from year to year. Dr. Carmichael adds the following interesting comments on some of his observations:

"An unusual fungus was isolated from ringworm on the back of the hand of a seven-year-old Vegreville girl in 1957. The fungus has now been identified as *Microsporium nanum*. Only four human cases of *M. nanum* infection have been reported previously. All four occurred in warm climates (Cuba, Mexico, Louisiana). An outbreak of *M. nanum* ringworm in pigs has been reported from Kenya. A report of the Alberta case has been accepted for publication in *Mycopathologia et Mycologia Applicata*.

The seasonal incidence of various ringworm fungi in Alberta was investigated using the records of the Mycology diagnostic section for the years 1958 to 1961.

It was found that *Microsporium canis* infections (mostly acquired from cats and dogs) reach a low ebb in June, climb to a plateau which lasts from October to January, and then decline again from February to June.

Trichophyton verrucosum infections (mostly acquired from cattle) reach a low ebb in September, climb rapidly to a peak in February, and then decline more gradually until September.

Trichophyton mentagrophytes, *Trichophyton rubrum* and *Candida albicans* did not show any consistent seasonal variation over the period studied. These fungi are not associated with animal reservoirs."

STAFF

In July, 1961 there were two new additions to the full-time staff of the Division of Pathology in the persons of Dr. T. A. Kasper and Dr. R. J. Swallow, both of whom hold the rank of Assistant Professor

of Pathology in the University of Alberta. Dr. Kasper is presently in charge of the Cytology Section, while Dr. Swallow is responsible for surgical pathology in cases referred to the Provincial Laboratory from the northern half of the Province. Dr. Swallow is also responsible for medico-legal work done in the department.

Miss S. R. Toshach who had been taking courses in the University of Toronto with the help of a Provincial Training Grant was successful in obtaining the Diploma in Bacteriology from that University. She resumed her duties as Assistant Bacteriologist in June.

In November, your Director was presented with the 10th Kimble Methodology Award by the Conference of State and Provincial Laboratory Directors for his work in the development of a transport or holding medium for bacteriological specimens. This is the first time that the award has come to Canada, and it is very gratifying that the Alberta laboratories were so honoured.

TABLE 1
EXAMINATIONS PERFORMED IN THE PROVINCIAL LABORATORIES
YEAR 1961

CONTROL OF COMMON INFECTIONS

	Edmonton	Calgary
Diphtheria	8,674	2,001
Enteric-dysentery	12,137	2,545
Fungus infections	4,770	834
Intestinal parasites	612	146
Naso-pharyngitis	9,914	2,004
Tularaemia serology	1,630	549
Tuberculosis	15,258	3,467
Undulant fever serology	1,630	549
Whooping cough	21	15

OTHER DIAGNOSTIC AND MISCELLANEOUS

Animal inoculations (other than T.B.)	106	39
Antibiotic etc. sensitivities—disc	209,771	76,224
quantitative	15	502
Blood cultures	1,397	170
Leptospirosis	255	.....
Miscellaneous	23,404	7,269
Paul Bunnell test	1,477	561
P.M. bacteriology	311	.....
Referred cultures	1,168	.....
Special investigations	9,216	.....
Trichomonas	10,558	1,027
Virus infections	19,173	.....

VENEREAL DISEASE CONTROL

Chancroid etc.	3	.....
Gonorrhoea—Smears	2,452	6,376
Cultures	12,305	1,023
Syphilis	115,002	41,273

SANITARY BACTERIOLOGY

Food products	62	40
Water	16,022	9,904
Milk and Cream .....	.....	400
Restaurant Hygiene	200	.....

PATHOLOGY

Diagnostic cytology—blood smears	164	202
—cervical smears	3,634	1,743
—bone marrows	20	6
—fluids	474	113
Routine diagnostic histology	26,241	6,885
Routine autopsy histology	11,760	560
Pregnancy diagnosis—frog	827
Pregnancy diagnosis—rabbit	15

TOTALS	520,678	166,427
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TABLE 2
CONTROL OF ENTERIC-DYSENTERY INFECTIONS

EXAMINATIONS	Edmonton	Calgary
Blood and Clot Cultures	1,362	494
Faeces Cultures	5,890	1,446
Urine Cultures	43	4
Other examinations	405	36
Serological tests	1,630	549
DETAILS OF ISOLATIONS		
SALMONELLA		
S. typhi	38	15
S. paratyphi B	7	.....
S. thompson	211	30
S. heidelberg	52	39
S. typhi-murium	26	32
S. enteritidis	11	1
S. reading	9	.....
Other salmonellae	29	10
SHIGELLA		
Sh. flexneri	128	15
Sh. sonnei	68	14
Sh. boydii	5	.....
ENTEROPATHOGENIC E. coli		
0119:B14	191	.....
026:B6	28	.....
0127:B8	12	.....
Other	14	.....

TABLE 3
CONTROL OF TUBERCULOSIS

EXAMINATIONS	Edmonton	Calgary		
Microscopic	7,428	1,283		
(Positive)	313	10		
Cultures	5,878	966		
Animal inoculations	1,952	1,208		
SPECIMENS				
	No.	Positive	No.	Positive
Pulmonary	5,539	416	1,320	63
Meningeal	82	11	23	0
Renal	1,194	63	529	19
Other	651	51	260	7

TABLE 4
CONTROL OF SYPHILIS

	Edmonton	Calgary
CEREBRO-SPINAL FLUIDS—Wassermann (Kolmer)	1,459	857
BLOODS—		
Presumptive Kahn or VDRL	99,620	31,387
Standard Kahn or VDRL .....	.....	4,379
Quantitative Kahn or VDRL	2,602	72
Wassermann (Kolmer)	11,321	4,578
Blood and cerebro-spinal fluid "positive" to reaction	725	69
Blood and cerebro-spinal fluid giving reaction below lab. diagnostic level	2,150	877
PRE-MARITAL BLOODS submitted according to Provincial Regulations	13,030	8,360
Positive to reaction	13	2

TABLE 5
SANITARY CONTROL WATER

	Edmonton	Calgary
Water (No. of specimens)	7,747	4,275
Coliform test—Presumptive	7,713	3,016
Confirmed	2,182	1,299
Special	55	1,314
Plate count	6,072	4,275
Waters found bacteriologically unsuitable	775	934

MYCOLOGY CENTRAL REFERENCE LABORATORY
 Statistics for 1961
 (1960 figures in brackets)

Total specimens examined	4,798	(4,532)
Skin, hair and nail specimens	1,402	(1,510)
Frequency of isolation or identification of certain pathogens—		
Trichophyton mentagrophytes	134	(158)
" verrucosum	38	(60)
" rubrum	41	(39)
" canis	12	(2)
Microsporium audouinii	75	(67)
" canis	16	(12)
Epidermophyton floccosum	28	(35)
Malassezia furfur	1,793	(1,497)
Candida albicans		(6)
Nocardia minutissima	3	(1)
Aspergillus flavus	6	(4)
" fumigatus	4	(3)
" niger	1	(0)
" flavipes	3	(2)
Penicillium sp.	1	(1)
Scopulariopsis brevicaulis	4	(3)
Geotrichum candidum	2	(0)
Demodex folliculorum	1	(0)
Eutrombicula sp.		

TABLE 6

SERA AND VACCINES DISTRIBUTED
 (All supplied by Connaught Laboratories unless otherwise noted)
 IMMUNIZING AGENTS

	Edmonton
DIPHTHERIA	
Diluted Diphtheria Toxoid—1 person	86
2½ c.c. reactors	23
Schick Test Toxin—25 persons	536
Toxoid—1 person	447
6 c.c.	113
DIPHTHERIA COMBINED	
Diphtheria, Pertussis and Tetanus—	
1 person	3,079
9 persons	223
Diphtheria and Tetanus—	
1 person	3,706
9 persons	875
ENTERIC	
Typhoid-Paratyphoid—1 person	1,001
10 c.c.	436
ENTERIC COMBINED	
T.A.B.T.—3 c.c.	2,060
25 c.c.	282
T.A.B.T.D.	42
MEASLES	
Anti-Measles—5 c.c.	978
Immune Serum Globulin—2 c.c.	2,802
5 c.c.	3,464
POLIOMYELITIS—10 c.c.	22,479
POLIOMYELITIS COMBINED	
Tetanus—10 c.c.	2,574
Diphtheria and Tetanus—10 c.c.	8,834
Diphtheria, Pertussis and Tetanus—10 c.c.	18,718
ROCKY MOUNTAIN SPOTTED FEVER	
(Lederle Lab.)—3 c.c.	147
20 c.c.	14
SMALLPOX	
1 point	4,374
10 point	11,025
STAPHYLOCOCCAL INFECTION	
Staphylococcus Toxoid—2 c.c.	1,790
TETANUS (see Diphtheria and Enteric combined)	
Tetanus Toxoid—1 person	2,442
30 c.c.	246
VACCINES, OTHER	
Autogenous Vaccine (Prov. Lab.) 25 c.c.	24
Rabies Vaccine—14 c.c.	14

THERAPEUTIC AGENTS

DIPHTHERIA—ANTITOXIN	
1,000 units	420
40,000 units	262
GAS GANGRENE—Antitoxin—10,000 units	696
RABIES—Antiserum—1,000 units (Lederle Lab.)	32
SCARLET FEVER—Antitoxin—3,000 units	105
STAPHYLOCOCCUS—Antitoxin—20,000 units	88
TETANUS—Antitoxin—1,500 units	3,059
20,000 units	249

TABLE 7

MINIMUM COMMERCIAL VALUE ASSESSED FROM RECOMMENDED
PROVINCIAL SCALES

Examination	Edmonton	Value	Calgary	Value	Total
Diphtheria	8,674	\$ 8,674	2,001	\$ 2,001	\$ 10,675.00
Enteric-dysentery	12,137	24,274	2,545	5,090	29,364.00
Fungus infections	4,770	14,310	834	2,502	16,812.00
Intestinal Parasites	612	612	146	146	758.00
Naso-pharyngitis	9,914	9,914	2,004	2,004	11,918.00
Tularaemia serology	1,630	815	549	275	1,090.00
Tuberculosis	15,258	30,516	3,467	6,934	37,450.00
Undulant Fever serology	1,630	815	549	275	1,090.00
Whooping cough	21	42	15	30	72.00
Animal inoculations (other than T.B.)	106	318	39	117	435.00
Antibiotic etc. sensitivities—disc.....	209,771	41,942	76,224	15,245	57,187.00
qualitative.....	15	45	502	1,506	1,551.00
Blood cultures	1,397	2,794	170	340	3,134.00
Leptospirosis	255	510	.....	.....	510.00
Miscellaneous	23,404	23,404	7,269	7,269	30,673.00
Paul Bunnell test	1,477	2,954	561	1,122	4,076.00
P.M. Bacteriology	311	622	.....	.....	622.00
Referred cultures	1,168	2,336	.....	.....	2,336.00
Special investigations	9,216	27,648	.....	.....	27,648.00
Trichomonas	10,558	10,558	1,027	1,027	11,585.00
Virus infections	19,173	95,765	.....	.....	95,765.00
Chancroid etc.	3	6	.....	.....	6.00
Gonorrhoea—Smears	2,452	2,452	6,376	6,376	8,828.00
Cultures	12,305	12,305	1,023	1,023	13,328.00
Syphilis	115,002	230,004	41,273	82,546	312,550.00
Food products	62	124	40	80	204.00
Water	16,022	32,044	9,904	19,808	51,852.00
Milk and Cream .....	.....	.....	400	800	800.00
Restaurant Hygiene	200	200	.....	.....	200.00
Diagnostic cytology—blood smears.....	164	328	202	404	732.00
cervical smears...	3,634	7,268	1,743	3,486	10,754.00
bone marrows	20	40	6	12	52.00
fluids	474	948	113	226	1,174.00
Routine diagnostic histology	26,241	104,964	6,885	27,540	132,504.00
Routine autopsy histology	11,760	47,040	560	2,240	49,280.00
Pregnancy diagnosis—frog test	827	4,135	.....	.....	4,135.00
rabbit test	15	75	.....	.....	75.00
TOTALS	520,678	\$740,801	166,427	\$190,424	\$931,225.00

DIVISION OF SANITARY ENGINEERING

H. L. Hogge, B.Sc., P.Eng., Director

This Division's functions are in the field of environmental sanitation and is particularly concerned with the "quality" control of the atmosphere, surface water, public waterworks and sewerage systems, building plumbing, swimming pools, milk supplies, eating places, construction camps and refuse disposal.

The work and staff is organized into six sections, namely:

1. Sanitary Inspection
2. Plumbing Inspection
3. Municipal Engineering
4. Air and Water Pollution Control
5. Pollution Control Laboratory
6. Special Study for the Assessment of the Operation of Sewage Ponds.

The work under each of these sections during 1961 is summarized by section in this report. The total number of staff in the Division at the end of 1961 was 25, and they were employed as follows:

Director	1
Sanitary Inspection	3
Plumbing Inspection	4
Municipal Engineering	3
Air and Water Pollution Control	6
Pollution Control Laboratory	4
Sewage Pond Study	1
Secretarial	3

1. SANITARY INSPECTION

In 1961 there were positions for 63 Sanitary Inspectors in the Provincial Department, City Health Department and Health Units. Difficulties and delays were experienced throughout the year in filling vacancies which occurred. At the year's end, all positions were filled, but three were occupied by students. Two of the positions filled by students were in Health Units without other inspectors. The training of students in Units without qualified inspectors appears to be an undesirable practise. It appears desirable that a training program should be considered so that suitable qualified persons will be available to fill vacancies which may be anticipated.

Five city and health unit employees were successful in the examinations for the Certificate in Sanitary Inspection (Canada) in November, 1961. The Division provided some assistance in the training of some of the candidates including the arranging of periods of attachment to other Health Units where this was desirable.

A by-law to require that all milk distributed in the City of Grande Prairie be pasteurized was approved by the electors of the city in 1961.

This was the first compulsory pasteurization by-law to be passed since 1956. Thirty-nine cities, towns and villages now have these by-laws in effect.

Seventy-two pasteurizing plants were supplying milk to the public at the year's end; this includes one plant which formerly supplied milk for a college only. Four plants formerly listed as pasteurizing plants are now used as distributing depots only as the trend of recent years to concentrate milk processing in fewer plants throughout the province continued.

The movement of milk over long distances from larger plants continued to present some problems during 1961. Changes made in the dairy regulations have provided for mutually acceptable supervision where two or more health units are involved. There appears to be need for a study of these operations to ascertain what further changes in regulations and policies may be required.

The mechanical equipment used for glass washing in many beverage rooms continued to receive attention during the year. Some improvements in results due to increased attention to operating techniques were obtained by hotel operators co-operating with local health authorities. A machine of improved design was being investigated at the year's end. This machine may not completely eliminate all problems, but its appearance is an indication of progress achieved through the co-operation of the health authorities, hotel operators and the manufacturers.

Local Boards of Health reported the suspension of 7 restaurant permits during the year compared with 24 suspensions in 1960. Permits were reinstated as soon as necessary improvements for the protection of public health were completed.

The three provincial sanitary inspectors continued the program of recent years designed to assist local health authorities, particularly in non-health unit areas, to deal with sanitation matters. In addition, they engaged in a variety of activities related to this program. The program was considerably modified during the year as indicated hereafter.

A new Health Unit with headquarters at Hanna was established in 1961. This Health Unit has assumed responsibility for a large area in the province which previously was dependent on the sanitary inspection service of this Division. A Department directive required that the number of trips to most parts of the Province receiving service from provincial sanitary inspectors be reduced to 50% or more. These factors have caused a considerable alteration in the pattern of the inspection program from former years. The effect of the second factor on sanitation standards could not be assessed before the year's end.

A total of 929 inspections were made in 1961; this compares with 737 inspections in 1960 and 948 in 1959. There was, however, considerable change in the classes of inspections made as will be noted in the remainder of this report.

Thirty-two inspections were made at dairy farms and milk plants in 1961 as compared with 40 in 1960 and 78 in 1959. This reduction was brought on in part by each of the factors which have been referred to earlier.

During the year under review 373 inspections were made in restaurants and other food handling establishments. This may be compared with 281 in 1960 and 397 in 1959.

Eighty-one inspections were made in housing categories in 1961 compared with 79 in 1960 and 119 in 1959. These included inspections at industrial and construction camps, tourist accommodation and trailer coach parks. The many industries in the province which require a certain amount of moving from place to place by employees have resulted in an increasing use of trailer coaches. It has become increasingly important that the parking areas for trailer coaches be satisfactory.

Many requests were received from home owners, school authorities and others for examination of wells and sewage disposal systems. Two hundred and five such inspections were made, a large increase over the 86 made in 1960. This service has been well received and appears very worthwhile. Concern has frequently been expressed when it has been necessary to delay a visit.

Not included in the figures shown above were 117 visits in connection with the Division's "Radiation Hazards Protection Program". This was the first year this program has been in operation. Visits were made to industrial users of radioactive materials to ensure that proper precautions were being taken for the protection of employees and the general public. The increasing use being made of these materials suggests that this program should expand in the future.

The second stage of a bathing beach survey, commenced in 1960, was carried out in 1961. During the 1961 survey, samples of water from seven representative bathing beaches were collected. These samples were obtained at selected hours over weekends in order to determine what relation there was between loading factors and bacterial contamination. The results of the survey indicate that the increased bathing loads experienced on weekends do not appear to have a marked effect on the bacteriological quality of the water.

Members of the staff of the sanitation section continued active rolls on various boards. Particularly, the Chief Sanitary Inspector is a member of the Boards of Administrators of the new towns of Lodgepole and Swan Hills, and one of the Provincial Sanitary Inspectors is a member of the Pembina Planning Advisory Commission.

The Sanitation Section of the Division of Sanitary Engineering took part in a diversified program in the field of public health during 1961. Assistance was given to local health authorities, particularly in those areas of the province without health unit service. A radiation hazards protection program was commenced. Other undertakings in the field of public health were carried out.

2. PLUMBING INSPECTION

The Plumbing Inspection Section of the Division of Sanitary Engineering during 1961 received an income of \$5,937.00 in the form of plumbing permit fees. This represents an increase of 44.84% over the income of the previous year. The number of plumbing permits issued was 830 and this represents an increase of 43.6% over the year 1960.

The increase in revenue, as well as the increase in permits issued, indicates that the plumbing contractors respect the fact that they are able to obtain an improved inspection service and are anxious to have

an inspector look at their work and thereby assure them that they, and their employees, are installing a plumbing system of an acceptable quality. These contractors are also interested in having their mistakes brought to their attention as in this way they can improve their work and thereby assure the customer that he is receiving value for his money.

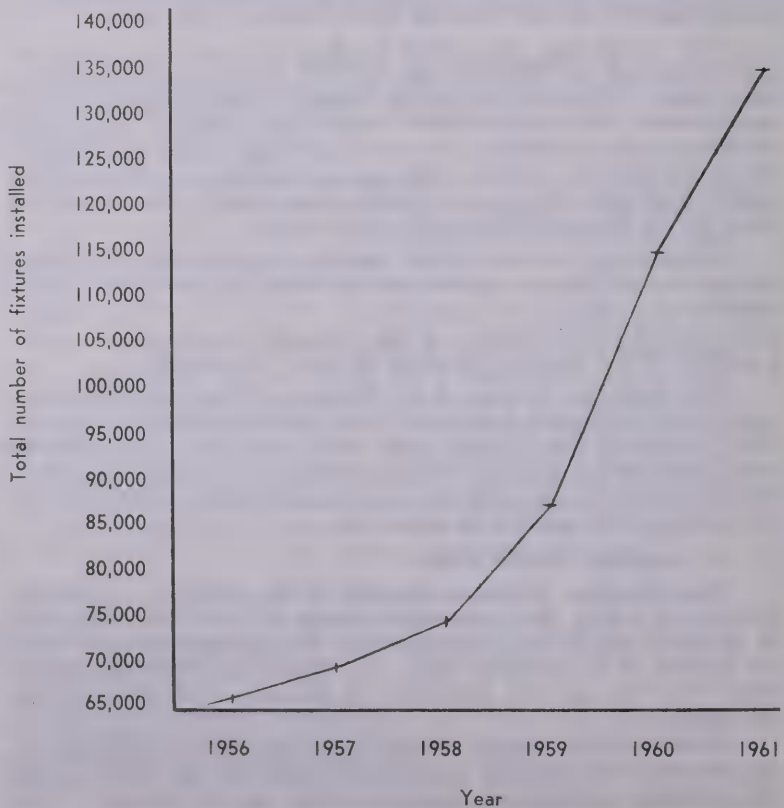
It is estimated that approximately 25% of the plumbing inspections completed during 1961 were for rural installations. This is a sure indication that the rural home owner, as well as plumbing contractors wish this inspection service although it is not mandatory at this time.

The number of plumbing fixtures installed in Alberta during 1961 totalled 134,979. The value of the plumbing installed is estimated to be approximately 27 million dollars.

The number of individual types of fixtures installed was as follows:

Water Closets	35,988	Lavatory Basins	36,929
Baths	22,465	Sinks	23,722
Laundry Tubs	2,368	Special Fixtures	13,506

The increase over the past six years in the total number of plumbing fixtures installed each year can be seen from the following graph.



The number of privies eliminated as a result of plumbing being installed was 1,206.

During this year the plumbing inspectors of this Division, in cooperation with the Agricultural Engineering Branch of the Department of Agriculture lectured at twelve meetings. These lectures are designed to assist a home owner to install a plumbing system to serve his own home. These schools are very well received and in each case the attendance was good and the interest shown is extremely encouraging. These factors indicate to the lecturer that those attending the schools are desirous of having the plumbing inspection service of this Division extended to include all rural installations regardless of whether the installation is made by a plumbing contractor or by the home owner.

The inspections of this Division included original construction and extensions to the following gas processing and sulphur removal plants:

Balzac, Coleman, Harmatton-Elkton, Jefferson Lake, Kaybob, Rimbey, Sentinel, Shell-Waterton, Wildcat Hills and Windfall.

Another type of inspection which required a considerable amount of time was the factory assembled type of building which is being developed for use as motels, schools, housing units, construction camps, etc. This type of unit is being produced in Lethbridge, Claresholm, Calgary, Airdrie, Wetaskiwin, Gainford and Edmonton.

It was necessary again this year to assist the local plumbing inspectors with plumbing inspections within their inspectorates and to arbitrate disputes which arose between the local inspector and the plumbing contractor. It is becoming a common practise for owners, architects, engineers and others to withhold the final payment to the plumbing contractor until a certificate of approval has been issued by the appropriate plumbing inspector, therefore it will be realized that disputes will be numerous, especially when the inspector is not a qualified person.

During 1961, this office became aware of the fact that copper waste pipes were not giving service under certain circumstances. It was noticed that this waste pipe material was pitting and in extreme cases it disintegrated completely. The matter was brought to the attention of the Canadian Copper and Brass Development Association which represents all of the copper pipe manufacturers in Canada and this organization is presently endeavouring to determine the cause of the pipe failure and it is hoped they will be able to provide a suitable solution to the copper pipe failure problem.

The great increase in plumbing permits issued and in the revenue received clearly indicates that 1961 was a busy and successful year.

3. MUNICIPAL ENGINEERING

During 1961 the number of engineers working in this section was increased to three. Also, one member of the staff completed his course in Sanitary Engineering at the University of California to qualify for the degree "Master of Science".

The normal duties of this section are to review and recommend approval or required modifications to engineering plans for the construction of new waterworks or sewerage systems, or extensions to exist-

ing systems and also plans for the construction of public and semi-public swimming pools. In addition, the staff deal with requests for assistance and advice in the operation of water and sewerage systems and swimming pools and makes periodic inspections of existing utility systems and swimming pools. It is expected that with the additional staff member, added field inspections will be possible and fulfill a much needed service.

By far the greatest percentage of the time was spent on approving plans of waterworks and sewerage system construction and swimming pools, as has been the case over the past number of years. Also the schools for 'Operators' of waterworks and sewerage systems requires a considerable amount of the staff's time. There are three yearly schools consisting of 3 days of lectures and demonstrations in the 1st and 2nd year schools and one week of the same for the 3rd year school. A certificate of attendance is issued to those persons who have completed the three schools. Two of the three schools, in regular rotation, have been presented every year since 1957. They have been an overwhelming success for those who have attended, however, many communities which should take advantage of it have not sent their operators to any of the schools. In most cases the responsibilities of the men employed are so numerous that it becomes extremely difficult for them to take time off from their duties. Perhaps more persuasive methods should be employed so that all operators have the opportunity to attend the schools. There is no doubt in our minds that these schools do make a difference in the general knowledge of the men and a great improvement in the manner in which the systems are being operated. A need for the schools still exists.

The second and third year schools were offered this year with an attendance of 46 and 39 respectively. Attendance figures to date for these schools are as follows:

(a) Completed 1st year	196
(b) Completed 2nd year	153
(c) Completed 3rd year	84
(d) Number of communities represented	121

The following tables give information on the 1961 waterworks and sewerage construction.

A. New Systems:

	No. of Provisional Certificates	Est. Cost	No. of Final Certificates	Est. Cost
Water	9	\$ 660,000	7	\$ 854,800
Sewer	10	768,700	9	343,900
TOTAL	19	\$1,428,700	16	\$1,198,700

B. Extensions to Existing Systems:

	No.	Provisional Certificate Estimated Cost	No.	Final Certificate Estimated Cost
Water and Sewer Mains	28	\$5,527,525	108	\$14,426,378
Water Supply and Treatment	4	561,460	20	617,666
Sewage Trunk Mains and Treatment	2	285,000	10	93,000
Storm Sewers	6	1,156,350	18	2,541,233
Total	40	7,530,335	156	17,678,277
Grand Total A and B.....	59	\$8,959,035	172	\$18,876,977

There were a total of 240 certificates issued, of these, 9 were superseded. There were 66 Provisional Certificates and 174 Final Certificates issued to 88 different communities.

The Final Certificate estimated cost figure above is \$2,056,713 greater this year than in 1960, a 12% increase in work done.

At present there are 217 communities with waterworks and/or sewerage systems in the Province of Alberta serving a population of approximately 67.2% of the total for the Province (based on federal preliminary 1961 census figures).

There were 197 waterworks systems and 204 sewerage systems in operation at the end of 1961, an increase of 8 sewerage systems and 5 waterworks systems in 1961.

The communities which have installed water and/or sewerage systems this year are:

	Waterworks	Sewerage Systems
Bluffton		X
Clive		X
Coutts	X	X
Cowley		X
Evansburg		X
Gibbons	X	X
Grassy Lake	X	
Milo	X	X
Whitecourt	X	X

SWIMMING POOLS:

During 1961 there have been approvals granted for 8 public pools and 7 semi-public pools, while 2 pools were renovated.

We are now advising three offices of the government when approval of plans is granted. They are as follows:

1. Chairman, Local Authorities Board
2. Public Relations Officer, Department of Provincial Secretary
3. Assistant Deputy Minister of Public Works

4. AIR AND WATER POLLUTION CONTROL

During the year of 1961 work carried out in the Air and Water Pollution Control Section was directed at controlling the pollution from new industrial plants locating in Alberta, assessing and reducing the pollution from various industrial operations and municipal sewerage systems already existing in Alberta, and assessing the degree of pollution present in various lakes, rivers and streams. For convenience, this section is divided into three sub-sections, namely, Air Pollution, Water Pollution and Pollution Control Laboratory, and this report shall be written accordingly.

A. ATMOSPHERE POLLUTION

(a) Staff

The staff in this sub-section consists of one engineer and two laboratory technicians, all supervised by the head of the section.

(b) Special Projects

Two plants producing 2-4-D began operations in the Edmonton area in 1961. Geraniums were planted in the vicinity of these plants and observed in order to ascertain whether any vegetation damage has resulted from their operation.

Vegetation survey plots were established and samples of vegetation obtained in the vicinity of two gas processing and sulfur recovery plants. Both of these plants are located in the vicinity of large timber stands. This study is being conducted jointly with the Alberta Department of Lands and Forests.

Assistance was given to Imperial Oil Limited in evaluating the sulfur dioxide concentration in the vicinity of an experimental sixty-five foot flare stack.

A joint study of corrosion of metal in oil fields was begun in co-operation with Alberta Government Telephones.

A two-day school on the study of "Atmospheric Pollution In the Vicinity of Gas Processing Plants" was conducted in November of this year. This course was attended by 52 members of various industrial and governmental organizations. An eighty page manual was prepared for those attending and requests for approximately 50 more copies of the manual have been received to date.

(c) Routine Projects

Two mobile air pollution laboratories were operated on a continuous basis during 1961. Trailer Unit No. 1645 was operated for a total of 332 days, stood idle for 24 days and lost 9 days in moving. This unit was used to conduct 14 separate surveys in 11 different areas. Trailer Unit No. 1585 was put into operation on March 8th, 1961, and from that date operated a total of 275 days, was idle for 16 days and lost 4 days moving. During this time seven surveys were conducted in six separate areas.

Air pollution control measures were approved for ten gas processing and sulfur recovery plants. The total cost of these plants was approximately 90 million dollars.

Six industrial surveys were conducted to determine whether the plants in question were operating within the limits prescribed by the Board of Health regulations.

Assistance was given to the Oil and Gas Conservation Board in drafting amended regulations pertaining to sour gas oil fields. These amendments are concerned with the venting of H₂S and its ignition in flare stacks.

Assistance was given to the Pipelines Branch of the Department of Mines and Minerals in approving design and construction of sour gas pipelines.

The "exposure cylinder" program was expanded to include a total of 78 stations in some 20 locations. Of this total 17 stations were established in 1961, while two stations which had been previously established were removed.

A total of 21 dustfall stations are established, 7 of which were located in 1961.

Air samples were obtained and analyzed for total particulate matter and total oxidant. These samples were obtained in Edmonton.

Concentrations of smoke were observed on a continuous basis at Edmonton and Calgary.

Concentrations of carbon monoxide in automobiles being operated in heavy traffic were observed.

An "oxides of nitrogen analyzer" was obtained, however the instrument was damaged in shipment and had to be returned to the factory for repair, hence no readings were obtained.

Regulations respecting the control of atmospheric pollution were finalized and submitted to the Provincial Board of Health for approval. These regulations were passed on August 30th, 1961.

B. Water Pollution

(a) Staff

The staff conducting water pollution investigations consists of one engineer and one laboratory technician, both supervised by the head of the section. This represents an increase in staff of one man during the past year.

(b) Work Carried Out

Two new industries releasing wastes to the North Saskatchewan River began operations in 1961. Sampling of these effluents was carried out in order to determine the accuracy of design data, and if the limitations set out by the Provincial Board of Health were being met.

A creosote plant, proposing to release their effluent to the North Saskatchewan River resulted in a survey of the effluent and the subsequent recommendation that the effluent not be allowed into the river without more adequate treatment. Two gas processing plants' effluents were surveyed to determine their effect on receiving waters and a study of the waste effluents from the sugar beet and vegetable canning industries was conducted.

Samples of the water impounded by the Brazeau Dam were taken to determine the effect of submerged vegetation on the quality of the impounded water.

It should be noted here that release of water from the Brazeau Dam commenced at the end of November, 1961, and this has resulted in a significant increase in the volume of flow in the North Saskatchewan River, except for a short period in November when the ice was forming in the river, the minimum flow in the river has been between 2,000 and 2,500 cubic feet per second.

A new fibreboard plant was proposed for the Province, and recommendations regarding liquid waste disposal were presented to the company proposing the plant.

Investigations were carried out in regard to the waste disposal facilities of the pulp mill which is to be located on the Athabasca River.

In addition to this, surveys of the various streams and rivers, industrial effluents and municipal sewage disposal facilities were conducted.

A summary of the surveys conducted is listed below:

1. Industry effluents -----	29
2. Municipal sewage disposal -----	23
3. Rivers and streams -----	50

5. POLLUTION CONTROL LABORATORY

(a) Staff

The staff in this section consists of two chemists, one laboratory technician, and one laboratory assistant. This is an increase in staff of one laboratory technician in 1961.

(b) Work Carried Out

This section carried out all the laboratory analysis of samples for the air and water pollution control section. During the past year this has involved the analyses of the following samples:

1. Stream pollution samples -----	683
2. Exposure cylinders -----	1,639
3. Dustfall -----	164
4. Fluorides (atmospheric) -----	26
5. Calcium (in dustfall) -----	49
6. Sulfur (in vegetation) -----	171
7. Total oxidant -----	147
8. High volume samples -----	20

In addition to these, numerous literature surveys have been conducted, equipment has been ordered, and an attempt at standardizing the various analytical methods made.

A survey of the various methods of conducting the fluoride (in water) analysis was made.

6. SPECIAL PROGRAMS

The continuation of the 1958-1960 research study of the operation of sewage ponds in Alberta was commenced in the spring of 1961. The purpose of this study is to assess the operation of the revised type of sewage ponds now being constructed in the Province. This revised design of sewage ponds includes both the "Anaerobic" and "Aerobic" ponds. The anaerobic ponds used are four units, each 8 to 10 feet deep and having a detention time of four days. "Aerobic" ponds have an optimum water depth of 5 to 6 feet and a detention time of 6 to 12 months, depending on local requirements. Sewage pond installations utilizing this revised design have now been completed in the following communities:

1. Innisfail
2. Stettler
3. Camrose
4. Red Deer
5. Medicine Hat

In addition to the above communities which had existing sewerage systems, all new sewerage systems are including this revised design in the planning of their sewage treatment facilities.

One further practical result of this initial study of sewage pond operation has been that municipalities which are located in areas remote from a river or lake and, therefore, must release the treated sewage at an appropriate time of the year to avoid adverse pollution or land flooding, are being advised to avoid release of the stored waters in the early spring as the water quality is at the lowest level for the year. Much more effective treatment and control of adverse effects can be achieved by releasing the effluent waters from midsummer to late fall and then storing all of the sewage flow until the next summer season.

The compiled report on the 1958-1960 study was completed and distributed to government agencies and other interested persons during the later part of 1961.

CIVIL SERVICE NURSE

K. E. Jorgensen, R.N.

The objective of this nursing service is to provide a program that will help the employee achieve and maintain the highest potential level of health.

1. Through the medium of health and safety teaching during individual contacts.
2. Early recognition and referral (if indicated) for illnesses and injuries.
3. Assistance in selective job placement and follow-up of personnel with health limitations.
4. Giving emergency care in accordance with duties outlined and with Workmen's Compensation Board directives.
5. Maintaining a close liaison with employee and other services.
6. Providing opportunities for individuals to ask questions or discuss problems.
7. Making home calls when requested and issuing certificates for deserving cases.
8. Keeping daily, monthly and annual reports, including W.C.B. and individual records.

This year we have made a greater attempt to teach and encourage the need of keeping physically fit. A few minutes of exercises each day have helped cases of dysmenorrhea, poor circulation (with no organic heart condition) and several cases of constant 'tiredness'.

A new emergency room has been established in the north wing of the Highways Building. This room is much appreciated and our thanks go to those who have assisted in obtaining the room and to the staff who have helped the sick and injured during working hours.

At this time we would like to give a special 'thank you' to all in the various buildings who have rendered first aid and assisted the sick.

In addition to the following statistics there were 83 employees given transportation either to the hospital, doctor's office or to their respective homes. This number included the employees who were quite ill or injured; also those suffering from any of the infectious or communicable diseases.

	Office Calls	Home Calls	Compen sation	Certificates
January	486	60	10	45
February	473	43	9	32
March	484	45	19	29
April	414	36	6	26
May	444	38	12	28
June	481	32	16	17
July	372	35	5	19
August	404	26	12	23
September	400	30	11	24
October	496	40	8	25
November	495	43	8	25
December	450	60	9	27
1961	5,399	488	125	320
1960	5,368	448	151	242

DIVISION OF ARTHRITIS SERVICES

R. K. Thomson, B.Sc., M.D., R.C.P.(C), F.A.C.P., Director

The Division of Arthritis, with clinics at 9815 Jasper Avenue, Edmonton, and 2104 - 2nd Street S.W., Calgary, accepts patients up to the age of twenty-five years. There has been no change in policy during the year 1961.

As will be seen from the statistical report which is attached, there is no essential change in the number of new patients seen during the year. The new cases exceed the cases which became ineligible. An attempt is made, however, to keep in contact with former patients who are now ineligible due to age.

New chemical agents for the treatment of Rheumatoid Arthritis have been provided when their value and need has been established.

STATISTICAL COMPILATION OF CASES TREATED IN 1961

	Edmonton	Calgary	Total
Initial examinations made	22	10	32
Repeat examinations made	99	25	124
Rheumatoid Arthritis cases in 1961—new.....	16	6	22
Total Rheumatoid Arthritis cases under the Division of Arthritis	115	53	168
Hospital days	947	634	1,581
Physiotherapy treatments	216	33	249

TREATMENTS

January 1st to December 31st, 1961

Hospital days	1,581
Clinic and office visits	156
Physiotherapy treatments	249
Other: including surgical, injections and special procedures ...	135
Total Treatments	2,121

DIVISION OF CEREBRAL PALSY CLINICS

F. G. Day, B.Sc., M.D., L.M.C.C., F.R.F.P.S.

M.Ch.Orth., F.I.C.S., F.A.A.C.P., Director

1961 saw the Alberta Cerebral Palsy Clinics in Edmonton and Calgary undergo further enlargement. The number of new cases seen totalled 98—59 in Edmonton and 39 in Calgary. The number of re-checks was 577—403 in Edmonton and 174 in Calgary. The monthly average of patients receiving treatment rose to 114—65 in Edmonton and 49 in Calgary. From these statistics it would appear that there has been an increase in both the number of children receiving treatment from the Cerebral Palsy Clinics as well as the number of new cases detected as being sufferers from cerebral palsy.

During the year it became most apparent, mainly in Edmonton but in Calgary as well, that we were physically unable with the space facilities and personnel provided to cope with the expanding problem. Consequently at Edmonton, many changes appeared:

The enlargements were made available in doubling the size of Physiotherapy and Occupational Therapy facilities and providing additional school rooms enabling us to utilize the old rooms for other purposes.

Discussions with the Edmonton Public School Board, regarding the inclusion of schooling for cerebral palsied children where required, pertained to this service being placed under their jurisdiction.

Considerable interest has been shown in the new project brought about for the services of multiple handicapped children. It has been anticipated and shown that the cerebral palsied have provided the nucleus along which these centres are developed. We hope that 1962 will bring far more definite accomplishment in this field.

Though the increase in the number of patients examined and treated at the clinic is relatively small, this does not reflect increase in teaching and other services that the year has brought to the clinic.

We do not feel that we are treating patients in Edmonton or in Calgary who have not the capacity to progress. Consequently, it is our opinion that satisfactory progress has been shown in both clinics and in the majority of patients receiving therapy.

There follows a statistical report of the work accomplished in 1961:

	Edmonton	Calgary	Total
Number of examining clinics	53	41	94
Number of Case Conferences	4	10	14
Total number of patients examined by:			
Orthopedic Surgeon	452	213	665
Pediatrician	79	1	80
Dentist	18	...	18
Geneticist	13	...	13
Number of re-checks	403	174	577
Number of new cases	59	39	98
Cerebral Palsy	37	36	73
Pending	6	...	6
Miscellaneous	16	3	19
Total Active Cases	261	237	498
Number of patients treated on rotating basis	156	97	253
Monthly average of those who received treatment	65	49	114
Number of patients under review	105	124	229
Number of patients attending "Care Centre" .....	...	16	16

Physiotherapy

Number of treatments	3,272	2,826	6,098
Number of cases benefitting	132	52	184

Progress

Co-ordination	15	...	...
Sitting balance	16	9	...
Kneeling balance	7	...	...
Standing balance	18	23	...
Reciprocation (tricycle)	5	...	...
Crawling	5	...	...
Walking		11	...
(a) with help unbraced .....	...	...	...
(b) in walker .....	...	...	...
(c) in parallel bars	2	...	...
(d) with crutches .....	...	7	...
(e) with canes	7	7	...
(f) unaided (braced)	1	10	...
(g) unaided (not braced)	6	7	...
(h) with help—braced .....	...	10	...
(i) balance improved	16	...	...

General Improvement

Minor gait improvement	28	21	...
Considerable gait improvement	12	19	...
Deformities reduced	23	...	...
Group muscle control	25	...	...
General muscle control .....	...	26	...
Minor activity increase	25	...	...
Greater independence in wheelchair	7	...	...
No progress (some new cases)	9	11	...

Bracing

(a) for control	12	12	...
(b) removed	6	...	...
(c) increased	5	...	...
(d) special chair for posture	6	...	...
(e) corrective shoes for the first time	18	12	...
(f) standing braces .....	...	4	...
Physiotherapy home program	40	50	...
Total parent instructions	260	137	...
Home visits	4	...	...
Casts	7	2	...
Assessments	41	...	...
Muscle Test	32	...	...
Re-checks	23	...	...

Occupational Therapy

Number of treatments	3,093	4,397	7,490
Number of cases benefitting	119	63	182

Activities of daily living

(a) dressing	12	7	...
(b) feeding	13	10	...
(c) Other (bathroom, kitchen, household)	5	12	...

Upper limb function

	Edmonton	Calgary	Total
(a) range and duration of used movement	15	5	
(b) co-ordination (including hand to eye)	22	33	

Special skills

(a) handicraft and hobbies	33	46	
(b) typing	6	3	
(c) writing and pre-writing (including motor and perceptual difficulties) ..	12	20	
Assessments	26	11	
Initial examinations only	35	8	
Upper limb braces and appliances	32	38	
Parent instruction and home programs	140	16	
Emotional problems	16		

Majority of children are subjected to the socializing influence of various playroom groups.

*—Weaving, basketry, water-colour and oil painting and modelling, simple woodwork, sewing (machine and hand), metalwork, leatherwork, "jewelcraft", "modelmaking".

Speech Therapy

Number of treatments	1,731	2,202	3,933
Number of cases benefitting	103	51	154
Pre-speech activities	20	5	
Respiration	7	4	
Articulation	26	19	
Language (comprehension)			
(a) oral	10	2	
(b) lip reading	4	9	
Language (expression)			
(a) verbal	15	9	
(b) non-verbal	3	1	
Voice training	4	13	
Emotional problems (stammers etc.)	5	2	
Phonetics	1		

Cases on supervision only

In clinic	8	4	
On home program	21	18	

General Improvement

Considerable	10	9	
Satisfactory	39	28	
Little or no progress	29	14	
Speech and language assessments	64	22	
Audiometric tests (also part of routine assessment)	13	28	
Parent interviews	165	131	

School

SCHOOLROOM I

		(10 months)*	
Number of instructions	1,630	1,941	3,571
Number of cases benefitting	30	14***	44
Number of parents instructed	23	23	46
Pre-school level—preparation for Grade I ..	18	4	
Remedial tutoring because of handicapped			
Sr. 1	9	2	
Jr. 1	3	3	
Remedial tutoring because of intelligence			
Sr. 1		1	
Normal Function			
Jr. 1		4	

SCHOOLROOM II—

Number of instructions	1,696	1,247	2,943
Number of cases benefitting	21**	14***	35
Number of parents instructed	22	5	27
Grade I Junior		3	
Grade I Senior		1	
Grade II Junior		2	
Grade II Senior		2	
Grade III		4	
Grade IV		5	
Grade V		3	
Grade VI		1	
Grade VII		2	
Remedial		2	

* Teaching provided by the Calgary School Board.

** Pupils receive a full day of schooling with exception of therapy periods.

*** All children in the schoolrooms are assessed by the Guidance Department of the Calgary School Board before admission and re-assessed periodically thereafter to be assured of proper placement.

All gradings are to approximate level of work only. Due to handicapping conditions it is impossible to give specific grading.

Dispensation of Cases

	Edmonton	Calgary	Total
Admitted to Special Classes in			
Public Schools	1	2	
Admitted to School for Mentally Retarded	4	4	
Served by Edmonton Public School			
Visiting Teachers	5	....
Admitted to Provincial Training			
School at Red Deer	2	4	
Attending Cerebral Palsy Assoc. C.P.			
Care Centre .....	....	16	
Attending Jamestown, N. Dakota			
Cerebral Palsy School .....	....	1	
Admitted to Rehabilitation Society's			
Schoolroom .....	....	2	
Referred to Emotionally Disturbed Unit	1	
Transfers	4	2	
Deceased	2	

Surgery

Surgery	13	17	
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Foster Home Program

Total number of boarding cases	31	18	49
Total days—domiciliary allowance	2,287	2,271	4,558

Braces

Full control, long leg braces with knee lock, fully adjustable, body support	2 pr.	4 pr.	
Long leg braces with knee lock, hip joints and pelvic band	5 pr.	6 pr.	
Long leg braces with no knee joints	2½ pr.	1	
Fibreglass body support, pelvic band, corset	3	....
Below knee irons and magnusson splints day and night	56	32	
Gutter type night splints .....	....	2	
Ponsetti bars—Fillauer	1	....
Keystone splint—bilateral .....	....	1	
Fibreglass hand, arm, thumb or sandwich splints	18	1	
Special feeding, drinking and dressing devices	5	1	
Wordboards	2	....
Special adjustments to equipment	16	2	
Special equipment made	7	....
Twisters	1 pr.	1	
Shoe corrections	109	82	
Brace adjustments and repairs	57	81	

Staff Education

Physiotherapists attended Seminar on Proprioceptive Neuromuscular Facilitation at Saskatoon	2	....
Occupational Therapist and Occupational Therapy Aide attended Occupational Therapy Association Seminar at Edmonton	2	....
Films—"Billy" and two on Bobath Method of Treatment previewed and discussed	3	....

Instructions, Conferences, Tours — and films shown to:

Physiotherapy Interns (7 weeks)	2	....
Physiotherapists, Occupational Therapists or Interns	37	5	
Nurses—Public Health, Graduates or Students	142	103	
Speech Therapists .....	....	1	
Doctors—3rd and 4th year Medical Students, and 4th year Dental Students	64	....
Educational Personnel—Special Teachers and Teachers	31	11	
Social Workers, Psychologists, Psychiatrists	1	11	
Visiting Board	4	3	
University Students—Education and Physical Education	36	10	
High School Students	4	6	
Miscellaneous Visitors	58	42	
Volunteers .....	....	14	
"A Day in the Life of a Cerebral Palsied Child" shown .....	....	18	times
Various clinic films shown	25 times	....

Conferences held by:

	Edmonton	Calgary	Total
Director .....	.....	3	
Supervisors	1	.....

Lectures by Staff:

Director	3	2	
Supervisor .....	.....	4	
Speech Therapist .....	.....	2	
Occupational Therapist .....	.....	1	

Parent Education:

Open House .....	.....	1	
Christmas Concert with C. P. Children taking part	1	1	

Movie Film Progress Records

Total number of cases filmed in 1961	96	13	
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Fire Drill

Practice sessions	2	
Inspected drill (building evacuated in 42 seconds)	1	

Lunches

Lunches	3,643	.....
Total volunteer periods	689	.....

Acknowledgments:

Our sincere thanks are extended to all who have so generously contributed to the operation of the Cerebral Palsy Clinics in Edmonton and Calgary.

Our appreciation is extended to the Provincial Guidance Clinics and the Provincial Training School at Red Deer for their assistance and interest; also to the Edmonton and Calgary Public and Separate School Boards who have provided us with assistance and co-operation in our educational program.

The Parents' Association in Edmonton and in Calgary have continued to provide transportation without which it would be most difficult to function.

Our grateful appreciation is extended to the Nursing Supervisors and Staffs of the Clinics for their willing co-operation and valuable services throughout the year.

DIVISION OF TUBERCULOSIS CONTROL

H. H. Stephens, M.D., Director

The year 1961 was an encouraging one in the field of tuberculosis control for Alberta. It also marked the Silver Anniversary of free treatment in the Province, and the forty-third year since tuberculosis services came directly under government control. There were no startling changes in methods of discovery of new cases or in treatment, and our hopes for an effective new drug were not fulfilled. However, by using the well established methods for early detection, treatment and control of tuberculosis together with patient education, and follow-up clinics to ensure continued adequate therapy upon discharge, the control program has shown some gains.

The death rate per 100,000 in 1960 was 2.7, and while the official rate for 1961 will not be known for some months, it is probable that it may show a slight further decline.

Our interest is drawn to the decrease noted in the number of newly discovered cases in the Province since 1958, which was our peak year with 1,359, in 1959 there were 1,144, 1960 showed 1,024 and in 1961 our total was 925 cases. It is also significant that the number of newly discovered cases considered active in 1960 was 513, while in 1961 there were 402 in this category, a decrease from 39 to 30.6 per 100,000. It is the hope of this Division that by 1970 this rate will reach 10 per 100,000.

There are many factors which may stay this hoped for progress. One which causes us grave concern is the annually increasing number of patients who exhibit strains of tubercle bacilli resistant to one or more of our three best drugs, and many of these patients have not had previous treatment. Hence, the importance of research to find other effective drugs that may be safely tolerated for prolonged periods. There is also a great need for patient education regarding the importance of taking prescribed medication after discharge. Some patients take these irregularly or take only one drug permitting resistant strains to develop. This is a serious handicap to the patient should an exacerbation of disease occur, and to his contacts who may develop disease with these resistant strains and this presents a problem in treatment.

Public education to combat complacency, that tuberculosis is no longer a serious disease, must be continued. Patients who spend one-third of their treatment period in a Sanatorium, and two-thirds as out-patients need regular follow-up examinations at out-patient clinics to ensure that adequate therapy is being maintained. Family physicians and Health Unit personnel are asked to keep in touch with discharged patients throughout this treatment period. It is apparent that to control tuberculous infections prolonged treatment is necessary, as it was several years ago—the only difference is that much less of this time is spent in Sanatoria. In Alberta the average time spent by patients in Sanatoria five years ago was 287 days—in 1961 this was reduced to 197 days. This change, together with a very low death rate, plus about 1,000 new cases discovered yearly builds up a very large pool of known cases in the communities of the Province, those continuing therapy need close supervision, the others life-long follow-up ex-

aminations. There is a need for expansion of tuberculosis clinic services as the use of Sanatoria beds decrease if we are to make continued progress in tuberculosis control.

On September 30, 1961 Dr. G. R. Davison, General Medical Superintendent and Director of the Tuberculosis Division, retired after thirty-one years of service in Alberta. The last eleven of these were as Director having succeeded the late Dr. A. H. Baker in 1950. It was a time when the extensive use of drugs against tuberculosis was just beginning, and none could foresee the dramatic results that the ensuing eleven years might bring. Additional Sanatoria beds were being provided to meet the growing demand for accommodation and treatment by patients discovered by an ever increasing case finding program. Death rates have dropped sharply from 18.7 per 100,000 in 1950 to 2.7 in 1960, and in the past two years there have been no waiting lists for admission to Sanatoria. During the period Dr. Davison directed the tuberculosis program in the Province, he had a keen interest in the development of the Tuberculosis Central Registry which has proven to be invaluable, especially in the follow-up program. School tuberculin testing programs, industrial surveys, hospital admission X-ray programs, miniature X-rays in the City Halls of Edmonton, Calgary, and Lethbridge as well as in all the Provincial Gaols have been promoted. Special clinics including a B.C.G. vaccination program among the Metis groups were carried out. Dr. Davison has also acted as chairman of the Medical Advisory Board of the Alberta Tuberculosis Association, and established excellent liaison with the Indian and Northern Health Services of the Federal Government, co-ordinating the efforts for tuberculosis control in these areas to the best advantage of the residents.

A farewell party was arranged by Sanatoria staff and friends at the Aberhart Memorial Sanatorium when a deluxe barbecue, patio equipment and lounge chairs were presented as a token of appreciation and esteem from his many well wishers.

CONSTRUCTION

Because of a number of empty beds one building at the Baker Memorial Sanatorium, Calgary is being renovated and equipped for the care of retarded children under the age of five years. This is expected to be in operation during 1962.

DIAGNOSTIC SERVICES

Clinic services are free to all who attend Sanatoria outpatient clinics and seven other stationary clinics throughout the Province south of Edmonton. It is hoped these services may be extended to the northern areas.

Mobile chest X-ray surveys with two units have operated throughout the year in co-operation with the Alberta Tuberculosis Association. It is proposed that instead of following the main roads which cut across some Health Units surveys may finish the Health Units insofar as possible before moving on. These surveys are still well worthwhile and bring about 18% of the new cases to our attention.

There are 38 hospitals in Alberta that have equipment for admission miniature chest X-rays. This has not been used as extensively as it might have been in our case finding program. X-rays taken in hos-

pitals not having a radiologist are interpreted by the Tuberculosis Division staff.

Tuberculin testing of various groups is an effective means of detection of new cases. Schools have been tested by Health Unit staffs and Medical Officers of Health and the reactors are advised to report for X-rays.

B.C.G. vaccination has been done in selected groups only, but it is suggested that more extensive use of the vaccine among the Metis population would be advantageous until better control is achieved among these people.

TREATMENT SERVICES

Any resident of Alberta with active tuberculosis in any form is eligible for treatment in the Baker Memorial or Aberhart Memorial Sanatorium. In 1956 there were 1,184 patients treated, in 1960—1,081 patients and in 1961 there were 1,083. Of the 710 admissions 81 cases were re-activations, and of all cases there is noted a slight increase in the number with strains of *M. tuberculosis* resistant to one or more of the drugs in common use against tuberculosis. There were 72 patients who left hospital against advice. Some infectious cases were returned under the Communicable Disease Regulations or the Amended Tuberculosis Act, if the former failed.

EDUCATION AND REHABILITATION

Another successful year in the teaching programs was noted. Academic, commercial and vocational training keep pace for many with their treatment program. Most children do not lose grades—adults train for rehabilitation when indicated—while many new hobbies and crafts are learned that may prove useful and give pleasure when a patient returns home.

MEDICAL AND NURSING TRAINING

The Aberhart Memorial Sanatorium is associated with the University Faculty of Medicine. Weekly clinics are given during the academic year to fourth year students. Both Sanatoria employ medical students who have completed third year for a training period during the summer months.

The Nursing Training Schools of the Province are affiliated with the Sanatoria for short courses for nurses in their second and third years. These are supervised by an instructor, and augmented by instruction from members of all departments having to deal with the care of patients which gives training in chronic infectious disease and tuberculosis prevention.

ACKNOWLEDGEMENTS

The operation of a tuberculosis control and treatment program is dependent upon the individual interest of each staff member in contributing a share to the success such a program may enjoy. The record of the past year speaks for itself in both Sanatoria, and I wish to express my thanks to all staff members for this excellent service.

The Alberta Tuberculosis Association has again assisted the control program in many ways from a share in Mass Mobile Chest X-ray Surveys, public, patient and staff educational programs, to rehabilitation and research, mentioning but a few of the projects. This assistance is very much appreciated and gratefully acknowledged.

Throughout the year many volunteer groups have given faithful attention to the welfare of patients in both Sanatoria. This has been in the form of donations, visiting, providing entertainment and meeting other needs of many patients. The Provincial Welfare Department has also willingly assisted as the need arose.

The clergy of all denominations has been most helpful in looking after the spiritual needs at the Sanatoria. All of the above services have earned a sincere "thank you" from both patient and staff.

The energetic program carried out by the Indian and Northern Health Services among the Treaty Indians of the Province and the assistance to those associated with or in close proximity to the Reserves is gratefully acknowledged.

The statistical summary which follows outlines in detail the work done in both Sanatoria and the Division.

DIAGNOSTIC CLINICS

1. STATIONARY CLINICS

	Number Sessions	New Cases of		Total Examinations
		Tub. Pul.	Active Non-Pul.	
Baker Memorial Sanatorium	96	11	1	4,116
Aberhart Memorial Sanatorium	102	28	5	4,996
Camrose	5	....	....	68
Drumheller	12	....	....	167
Lethbridge	12	4	....	1,143
Medicine Hat	12	1	....	592
Red Deer	11	2	....	177
Taber	12	....	....	144
Vegreville	5	....	....	74
TOTAL	267	46	6	11,477
OTHER CLINICS				
†Miscellaneous		30	3	11,368
Total all Clinics		76	9	22,845

In addition to the above noted 85 cases of active tuberculosis there were also discovered 448 cases of inactive tuberculosis.

† Films sent in from various points and paid for by the Tuberculosis Division.

2. Tuberculin Testing and X-ray Surveys (Conducted by Public Health Nurses, Teachers, Business Firms, Hospitals etc.)

	No. Tbn. Tested	No. X-rayed
School Board, Edmonton	185	240
School Board, Rural	6	15
Nursing Aide Trainees	463	1,191*
Food Handlers	7	456
Red Cross Blood Transfusion Service	18	45
University Students	279	244
City Service Athabasca Inc., Mildred Lake..	3	....
Provincial Laboratory Staff	25	113
School Survey (see table 2b)	54,388	1,802**
TOTAL	55,374	4,106***

* 556 x-rayed by City Hall Unit

** 388 x-rayed by City Hall Unit

*** 944 x-rayed by City Hall Unit

Actual number given service through this program is 55,786, i.e. number tuberculin tested plus number x-rayed but not tested and minus number known to be x-rayed on Mass Survey Programs.

2a. Number injections, out-patients (Aberhart Memorial Sanatorium and Baker Memorial Sanatorium)

Streptomycin	828
Viomycin	15

SCHOOL SKIN TESTING SURVEY

2b.	No. Tested		No. Reactors		Total Reactors	Number X-rayed	New Cases Tub.	
	School	Contacts	School	Contacts			Active	Inactive
Alberta East Central H.U.....	354	4	2	1	3	.....	.....	.....
Barons Eureka H.U.	1,556	57	37	22	59	45	.....	.....
City of Calgary	12,188	103	276	103	379	*121	.....	.....
Edson H.U.	666	15	8	6	14	2	.....	.....
City of Edmonton	10,651	149	120	36	156	97	.....	1
Grande Prairie H.U.	586	23	5	.....	5	2	.....	.....
Jasper Place H.U.	942	92	35	20	55	35	.....	.....
Jasper National Park H.U.	78	2	2	1	3	.....	.....	.....
Leduc Strathcona H.U.	8,856	222	64	35	99	41	.....	.....
City of Lethbridge	2,493	315	169	66	235	138	.....	.....
Mount View H.U.	2,450	127	60	41	101	41	.....	.....
North Eastern Alberta H.U....	1,104	212	76	67	143	47	2	.....
Peace River H.U.	2,966	259	152	46	198	110	.....	3
Red Deer H.U. (Canadian Union College)	200	1	18	.....	18	9	.....	.....
Sturgeon H.U.	4,091	89	111	39	150	85	.....	.....
Vegreville H.U.	687	39	8	7	15	5	.....	.....
Wetoka H.U.	2,160	155	55	48	103	73	.....	.....
Warner Municipal Nurse	484	12	31	1	32	2	.....	.....
TOTAL	52,512	1,876	1,229	539	1,768	853	2	8

In addition to the above mentioned 10 newly discovered cases of tuberculosis there were 2 active cases and 1 inactive case. The x-rays of these 3 were sent in marked as having been taken under the School Testing Program but no report of such testing was submitted by the Health Units for 1961.

There were 682 films received plus 267 taken on Mass Surveys marked as having been made as a result of the School Testing Program but the names of the persons concerned do not appear on any of the reports from the Health Units during 1961.

*Included in Mass Surveys.

3.

MASS X-RAY SURVEYS

Surveys at 156 points	107,292
Industrial City Hall, Calgary	1,164
Industrial Mass Survey, Calgary	15,735
School Survey, City Hall, Calgary	388
General Public, City Hall, Calgary	6,437
Nursing Aide Trainees, City Hall, Calgary	556
General Public, City Hall, Edmonton	6,986
Industrial Mass Survey, Edmonton	16,934
General Public, City Hall, Lethbridge	1,489
Gaol, Calgary	952
Gaol, Fort Saskatchewan	2,170
Gaol, Lethbridge	1,031
Unemployment Insurance Commission, Edmonton	2,171
TOTAL	163,305

SUMMARY MASS X-RAY SURVEYS

Number X-rayed	163,305
Probable Tuberculosis Active	35 (16 previously discovered)
Probable Tuberculosis Inactive	904 (667 previously discovered)
Further Examination Requested	1,276
Non-Tuberculous Chest Conditions	1,540
Undiagnosed (includes 109 spoiled films)	112
Pleurisy Active	2
Pleurisy Inactive	199 (57 previously discovered)
No Disease	159,237

4.

SUMMARY CLINICS AND SURVEYS

	Total Number Examinations
Stationary Clinics	11,477
Other Clinics	11,368
Surveys (excluding Mass Surveys and School Surveys)	1,786
Mass Surveys	163,305
School Surveys	54,388
Department of Indian and Northern Health Services	39,458
Hospital Admission Program	14,313
TOTAL	296,095

DEPARTMENT OF PUBLIC HEALTH

5. SOURCES OF DISCOVERY OF NEW CASES OF TUBERCULOSIS

	1960	%	1961	%
Clinics	583	56.9	533	57.6
Referred for admission by				
family doctor	215	21.0	203	22.0
Surveys (refer No. 2)	7	.7	3	.3
Referred by Department of Veterans				
Affairs or National Defence	9	.9	3	.3
Provincial and Hospital Laboratories....	9	.9	13	1.4
Hospital Admission Program	39	3.8	17	1.8
Indian and Northern Health Services....	109	10.6	98	10.6
Refugees	20	1.9	21	2.3
Mental Hospital .....	.....	.....	30	3.2
Miscellaneous Sources	33	3.2	4	.4
TOTAL	1,024		925	

The following table sets forth the sources of discovery giving credit to programs actually referring the cases to the Tuberculosis Clinics and for admission to Sanatorium beds for the establishing of diagnoses, i.e. the various programs originally responsible for the 533 cases being referred to Tuberculosis Clinics are credited with the discovery of the cases in the following break-down.

	1960	%	1961	%
Family Doctor	281 (190)	27.5	260 (163)	28.1
Mass Surveys	160 (29)	15.6	164 (22)	17.7
Contacts	95 (69)	9.4	89 (64)	9.7
Indian and Northern				
Health Services	117 (110)	11.4	102 (81)	11.0
X-San Other Provinces				
or Countries	86 (6)	8.4	82 (1)	8.8
Hospital Admission Program	53 (9)	5.2	36 (6)	3.9
Department National Health				
and Welfare	56 (1)	5.5	52 (3)	5.6
School Surveys	28 (17)	2.7	13 (4)	1.4
City Hall Units	35 (22)	3.4	32 (13)	3.5
Department of Veterans				
Affairs and National				
Defence	12 (4)	1.2	7 (2)	.8
Travelling Nurse	8 (5)	.8	.....	.....
Food Handlers	6 (2)	.6	13 (1)	1.4
Gaol	20 (11)	1.9	8 (4)	.9
Provincial and Hospital				
Laboratories	10 (10)	.9	10 (10)	1.1
Surveys	1 (1)	.1	.....	.....
Refugees	20 (13)	1.9	21 (18)	2.3
Mental Hospital .....	.....	.....	29 (6)	3.0
Miscellaneous Sources	36 (14)	3.5	7 (4)	.8
TOTAL	1,024 (513)		925 (402)	

Figures in brackets indicate number of active cases.

6. CLASSIFICATION OF NEW CASES OF ACTIVE AND INACTIVE TUBERCULOSIS

	Active	Inactive	Total
Minimal	61	426	487
Moderately Advanced	92	61	153
Far Advanced	43	9	52
Primary	83	.....	83
Tuberculous Pleurisy with Effusion			
and evidence of previous Pleurisy	20	12	32
Non-pulmonary Tuberculosis	97	15	112
Miliary	6	.....	6
TOTAL	402	523	925

Number of cases reactivated	81	
Number of non-residents diagnosed tuberculosis (includes		
21 refugees and 27 immigrants)	53	
Number Treaty Indians diagnosed tuberculosis	76	
Number of known contacts of newly discovered active and of		
reactivated cases	2,052	
Number known to be checked during 1961	1,528	74.5%

OLD TUBERCULIN DISTRIBUTED DURING 1961

	BMS	AMS	Total
Dilution No. 2	69	24	93
Dilution No. 3	550	604	1,154
Dilution No. 4	32	.....	32
Purified Protein Derivative .....	.....	33	33
	651	661	1,312

In addition to the above, Patch Tests were sent on request to Health Units and Family Doctors. The Tuberculosis Division recommends, however, that the Mantoux or Heaf Test be used in preference to the Patch Test.

B.C.G. VACCINATIONS 1961

1. Nurses (a) Graduates	2
(b) Students	569
(c) Other Nursing Personnel	599
2. Other Hospital Personnel	35
3. Medical Students	1
4. Indians and Eskimos, newborn (Indian and Northern Health Services)	782
5. All Other Persons—	
(a) Newborn contacts	6
(b) Adults and children, contacts	68
(c) Newborn, not contacts .....	...
(d) Adults and children, not contacts	128
TOTAL	2,190

INSTITUTIONAL REPORT

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium
Number of patients under treatment January 1, 1961	169	204
Number admitted during 1961	288	422
Number transferred in during 1961 .....	...	3
Number treated during 1961	457	629
Number discharged or died during 1961	325	425
Number transferred out during 1961	3	...
Number discharged, died or transferred out during 1961	328	425
Number under treatment December 31, 1961	129	204
Number of patients under treatment January 1, 1961		373
Number of admissions during 1961		710
Number of patients treated in Alberta during 1961		1,083

DIAGNOSIS OF PATIENT ADMISSIONS

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium
Non-tuberculous .....	...	38
For diagnosis	57	44
Pleural effusion	7	10
Tuberculosis inactive	26	15
Primary tuberculosis	27	39
NON-PULMONARY TUBERCULOSIS		
Abscess, chest .....	...	1
Adenitis	11	23
Bazin's Disease	2	...
Bone	6	10
Caecum .....	...	1
Genito-urinary	13	24
Kerato-conjunctivitis .....	...	2
Lupus Vulgaris .....	...	3
Meningitis .....	...	4
Pelvic	6	8
Pericarditis	1	1
Ulcer, groin .....	...	1
PULMONARY TUBERCULOSIS ACTIVE		
Minimal	29	51
Moderately Advanced	61	86
Far Advanced	38	58
Miliary	3	3
Silico-tuberculosis	1	...
TOTAL	288	422
Number with positive sputum on admission	47	84
Number with negative sputum on admission	241	338
Number negative on admission, positive later .....	...	...
Number of readmissions during 1961	61	111
Number both admitted and readmitted during 1961	3	17
Number left against advice during 1961	17	55
Number of patient days	58,121	76,844
Number of patient days in other provinces under reciprocal agreement		1,703
Total number of patient days including those in other provinces under reciprocal agreement		136,668
Number of patients in other provinces (reciprocal agreement) January 1, 1961		3
Number of admissions in other provinces under reciprocal agreement		10
Number of institutional patient days provided for non-residents in Alberta under reciprocal agreement		2,327
Number of patients in Alberta Sanatoria, non-residents under reciprocal agreement, January 1, 1961		14
Number of admissions, non-residents, under reciprocal agreement		7

DEPARTMENT OF PUBLIC HEALTH

OPERATING ROOM REPORT

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Aspiration of chest	43	17	60
Bronchoscopy	23	52	75
Bronchogram	24	43	67
Lobectomy	17	15	32
Pneumonectomy	3	2	5
Segmental and wedge resection	5	14	19
Thoracoplasty	33	14	47
Thoracotomy	1	2	3
Casts	17	24	41
Cystoscopy	21	29	50
Nephrectomy	2	2	4
Nephrostomy .....	.....	2	2
Biopsies	14	13	27
Implantation D.O.C.A.	3	11	14
Orthopaedic operations	2	8	10
Miscellaneous examinations and procedures	443	23	466
TOTAL	651	271	922

SUMMARY PNEUMOTHORAX CASES

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Outside Points	Total
Under treatment January 1, 1961	1	.....	.....	1
Number new cases during 1961 .....	.....	.....	.....	.....
Number cases under treatment on admission .....	.....	.....	.....	.....
.....	1	.....	.....	1
Number cases discontinued .....	.....	.....	.....	.....
Number cases transferred out of Alberta ....	.....	.....	.....	.....
Number transferred to other sections of Division .....	.....	.....	.....	.....
.....
Number under treatment December 31, 1961	1	.....	.....	1
Refills:				
Resident .....	.....	.....	.....	.....
Out-patient	5	.....	.....	5
.....	5	.....	.....	5

SUMMARY PNEUMOPERITONEUM CASES

Under treatment January 1, 1961 .....	.....	4	1	5
Number new cases during 1961 .....	.....	.....	.....	.....
Number of new cases under treatment on admission .....	.....	1	.....	1
.....	1	4	1	6
Number cases discontinued .....	.....	1	1	2
Number transferred out of province .....	.....	.....	.....	.....
Number transferred to other sections of Division .....	.....	1	.....	1
.....	.....	2	1	3
Number under treatment December 31, 1961	1	2	3
Refills:				
Resident	4	4
Out-patient	15	55	70
.....	15	59	74

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NUMBER DISCHARGED ON DRUGS DURING 1961

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Isoniazid and Para-amino Salicylic Acid	179	72	251
Isopas .....	.....	27	27
Streptomycin and Isoniazid	3	30	33
Streptomycin, Isoniazid and Para-amino Salicylic Acid	7	6	13
Isoniazid	1	2	3
Streptomycin and Para-amino Salicylic Acid	3	3	6
Streptomycin, Pyrazinamide and Para-amino Salicylic Acid .....	.....	1	1
Pyrazinamide and Para-amino Salicylic Acid .....	.....	1	1
Pyrazinamide and Isoniazid .....	.....	1	1
Isoniazid, Para-amino Salicylic Acid and Corticosteroids .....	.....	1	1
Pyrazinamide and Cycloserine .....	.....	1	1
Cycloserine and Terramycin .....	.....	1	1
TOTAL	193	146	339

LABORATORY REPORT

SPUTUM EXAMINATIONS:			
Positive	290	427	717
Negative	2,797	2,283	5,080
TOTAL	3,087	2,710	5,797
URINE EXAMINATIONS	5,228	4,085	9,313
BLOOD EXAMINATIONS:			
Blood Counts	4,591	5,801	10,392
Sedimentation Rates	2,628	3,819	6,447
Blood Sugars	169	453	622
TOTAL	7,388	10,073	17,461
MISCELLANEOUS:			
Pleural Fluid	17	4	21
Spinal Fluid	9	71	80
Gastric Analysis	9	9	18
Culture	3,287	1,556	4,843
Guinea Pig Inoculation	924	992	1,916
Other	2,713	1,884	4,597
TOTAL	6,959	4,516	11,475
WASSERMAN REPORT:			
Positive .....	.....	34	34
Negative	258	320	578
TOTAL	258	354	612
Basal Metabolism Rate .....	.....	24	24
Cardiograph .....	.....	143	143

DENTAL REPORT

Number of patients (individuals)	349	629	978
Number of treatments	142	573	715
Number of prophylactic treatments	19	10	29
Number of fillings	107	227	334
Number of extractions	127	310	437
Number of new dentures and repairs	48	56	104

DEPARTMENT OF PUBLIC HEALTH

X-RAY DEPARTMENT REPORT

	Baker Memorial Sanatorium		Aberhart Memorial Sanatorium		Total		Grand Total
	In Pts.	Out Pts.	In Pts.	Out Pts.	In Pts.	Out Pts.	
RADIOGRAPHS MADE:							
Chest—Full Sized	1,402	1,138	2,177	2,119	3,579	3,257	6,836
Miniature	18	3,721	1	4,987	19	8,708	8,727
Ribs .....	.....	.....	2	1	2	1	3
Pelvis	17	19	16	17	33	36	69
Extremities	85	100	101	39	186	139	325
Spines—Cervical	2	8	3	2	5	10	15
Dorsal	43	34	23	22	66	56	122
Lumbar	68	50	45	17	113	67	180
Skull	2	.....	10	1	12	1	13
Sinuses .....	.....	1	3	3	3	4	7
F.P. Abdomen	4	1	8	1	16	2	18
G.B. Series .....	.....	.....	6	.....	10	.....	10
G.I. Series	5	.....	5	.....	10	.....	10
Barium Enema	1	.....	3	.....	4	.....	4
Intravenous Pyelogram.....	34	1	64	19	98	20	118
Retrograde Pyelogram.....	15	.....	17	.....	32	.....	32
Sinogram	3	1	39	14	42	15	57
Bronchogram	27	.....	57	2	84	2	86
Ordographs	96	1	88	23	184	24	208
Dental	7	.....	85	.....	92	.....	92
K.U.B.	5	.....	.....	.....	5	.....	5
Barium Swallow	2	.....	.....	.....	2	.....	2
Esophagus	1	.....	.....	.....	1	.....	1
Shoulder	11	3	.....	.....	11	5	16
Sacro-iliac	5	3	.....	.....	5	3	8
Mastoid	1	.....	.....	.....	.....	1	1
TOTAL	1,861	5,084	2,753	7,267	4,614	12,351	16,965
Fluoroscopic							
Examinations	11	13	29	73	40	86	126
Films sent in for interpretation .....	.....	10,536	.....	20,894	.....	.....	31,430
Basal Metabolism							
Rate .....	.....	3	.....	.....	.....	.....	3
Cardiograph .....	.....	16	.....	.....	.....	.....	16
Audiogram .....	.....	2	.....	.....	.....	.....	2

CLASSIFICATION OF DISCHARGED PATIENTS

	Residence			On discharge			
	On admission	31 days or less	Over 31 days	In.	AI.	AU.	D.
1. For diagnosis	136	87	49	1	.....	.....	9
2. Primary Tuberculosis	92	2	90	36	55	1	.....
3. Reinfection type pulmonary tuberculosis clinical:							
Minimal	79	15	64	41	36	2	.....
Moderately advanced	81	12	69	47	30	3	1
Far advanced	32	10	22	21	8	1	2
4. Reinfection type pulmonary tuberculosis positive:							
Minimal	26	.....	26	4	20	.....	2
Moderately advanced	94	2	92	25	63	1	5
Far advanced	72	4	68	23	35	1	13
Miliary	3	.....	3	1	.....	.....	2
5. Tuberculous pleurisy	18	1	17	6	12	.....	.....
6. Non-pulmonary tuberculosis:							
Adenitis	23	5	18	4	17	1	1
Abscess	2	.....	2	.....	2	.....	.....
Bazin's disease	2	1	1	1	1	.....	.....
Bone	19	4	15	5	11	3	.....
Erythema Induration	1	.....	1	.....	1	.....	.....
Genito-urinary	42	6	36	10	29	1	2
Kerato-conjunctivitis	2	.....	2	.....	2	.....	.....
Lupus Vulgaris	3	.....	3	.....	3	.....	.....
Meningitis	1	1	.....	.....	.....	1	.....
Pelvic	17	3	14	4	13	.....	.....
Pericarditis	1	.....	1	1	.....	.....	.....
Pilonidal Sinus	1	.....	1	.....	1	.....	.....
Synovitis	2	.....	2	.....	2	.....	.....
Ulcer	1	.....	1	.....	1	.....	.....
Total active tuberculosis	614	66	548	.....	.....	.....	.....
Total treated .....	.....	.....	597	195	329	7	26
Total untreated .....	.....	153	.....	35	13	8	11
Grand total	750	.....	.....	230	342	15	37

EXPLANATION OF ABBREVIATIONS AND TERMS USED

The standard classification is that of the National Tuberculosis Association. Minimal, Moderately Advanced and Far Advanced refer to anatomical extent of disease.

In. Inactive
 AI. Active Improved
 AU. Active Unimproved
 D. Died

N.B.: Only those in residence over 31 days are classed as "treated".

CLASSIFICATION ON ADMISSION OF 750 DISCHARGED PATIENTS

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
For diagnosis	59	77	136
Primary tuberculosis	46	46	92
Pulmonary tuberculosis	174	213	387
Tuberculous pleurisy	10	8	18
Non-pulmonary tuberculosis	36	81	117
TOTAL	325	425	750

CLASSIFICATION ON DISCHARGE OF TREATED CASES OF ACTIVE TUBERCULOSIS
AND TUBERCULOUS PLEURISY

	On admission Number	On discharge Improved	On discharge Unimproved	Died
Minimal	90	87	1	2
Moderately advanced	161	157	2	2
Far advanced	90	78	2	10
Primary	90	90	.....	.....
Miliary	1	1	.....	2
Non-pulmonary tuberculosis	97	93	2	2
Tuberculous pleurisy	17	17	.....	.....
TOTAL	548	523	7	18

RESIDENCE OF DISCHARGED PATIENTS

SUMMARY

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Cities	166	135	301
Health Units	119	250	369
Enlarged Municipal Districts	} Not included in Health Units }	17	19
Local Improvement Districts		5	30
Counties		1	1
Non Resident	17	13	30
TOTAL	325	425	750

SEX OF DISCHARGED PATIENTS

Male	197	232	429
Female	128	193	321
TOTAL	325	425	750

AGE ON ADMISSION OF DISCHARGED PATIENTS

From 1 - 9 years	52	62	114
From 10 - 14 years	10	19	29
From 15 - 19 years	8	24	32
From 20 - 29 years	42	87	129
From 30 - 39 years	54	68	122
From 40 - 49 years	40	47	87
From 50 - 59 years	41	50	91
From 60 - 69 years	45	45	90
70 years and over	33	23	56
TOTAL	325	425	750

SOCIAL STATUS OF DISCHARGED PATIENTS

Single	122	183	305
Married	161	202	363
Divorced	5	6	11
Separated	6	14	20
Widowed	31	20	51
TOTAL	325	425	750

RESIDENCE IN ALBERTA

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Born in Alberta	118	248	366
1 year or less	52	19	71
1 - 5 years	33	30	63
6 - 9 years	11	25	36
10 - 14 years	18	12	30
15 - 19 years	9	12	21
20 - 29 years	11	8	19
30 or more years	73	71	144
TOTAL	325	425	750

RACIAL ORIGIN

Metis	13	152	165
Chinese	11	3	14
Japanese .....	.....	1	1
Indian (treaty)	36	.....	36
TOTAL	60	156	216

LENGTH OF STAY IN SANATORIUM OF DISCHARGED PATIENTS

DEATHS:

Number in Sanatorium under 31 days	8	3	11
Number of patient days	70	66	136
Average number patient days	8.8	22	13.3
Number in Sanatorium 31 days or more	13	13	26
Number of patient days	9,403	5,677	15,080
Average number patient days	723.3	436.7	580

DISCHARGES:

Number in Sanatorium under 31 days	71	71	142
Number of patient days	1,005	1,279	2,284
Average number patient days	14.2	18.0	16.1
Number in Sanatorium 31 or more days	233	338	571
Number of patient days	54,086	75,876	129,962
Average number patient days	232.1	224.5	227.6
Total number deaths and discharges	325	425	750
Total number patient days	64,564	82,898	147,462
Average number patient days	198.7	195.1	196.6

DIVISION OF MENTAL HEALTH

**R. R. MacLean, M.D., Cert. in Neurol. and Psych.,
F.A.P.A., Cert. M.H.A. (A.P.A.), Director**

ADMINISTRATION

The year under consideration was characterized by increased demands upon the services, both treatment and preventive. This is apparent from the individual annual reports of the various Branches of the Division, which are submitted herewith.

Bursary assistance was granted to many staff members in the various disciplines of Psychiatry, Psychology and Social Work, while many who had been receiving such assistance returned to the service better equipped to carry on their work. Notwithstanding this, there was a continuous shortage of fully trained suitable applicants for the positions available from time to time.

PREVENTIVE SERVICES

Provincial Guidance Clinics

The total work-load of the Clinics increased by 15 per cent. The Clinic psychiatrists reported generally, that the cases examined were of a severe nature. The majority fell within the categories of the emotionally disturbed and otherwise maladjusted children. About 20 per cent of all new cases seen were in the Intellectually Inadequate group.

There was some variation in the age groups as seen in the different Clinics, in that a higher percentage of adults was seen in areas where there were no local psychiatrists in private practice—especially in the Lethbridge and Medicine Hat areas.

The Clinic personnel did much work in the field of public education in Mental Health. The staff members took part in discussion panels, individual talks, also radio and television appearances.

The Clinics continued to assist in the follow-up work with patients discharged from the Mental Hospitals. Psychiatrists from the Provincial Mental Hospital, Ponoka, visited the Provincial Guidance Clinic in Calgary for the purpose of interviewing former patients and reviewing their progress.

Separate reports from the various Clinics follow:

PROVINCIAL GUIDANCE CLINICS

PROVINCIAL GUIDANCE CLINIC, EDMONTON

A. R. Schrag, M.D., Spec. Psychiatry, Clinic Psychiatrist

The most important event of 1961 was the increase in space made available to the Clinic, which made possible more adequate waiting room accommodation, play room, conference room, and library space.

There were numerous staff changes. Two physicians joined the staff in August, to complete their fourth year of training in Psychiatry before writing the Specialty Examination in 1962. One qualified psychiatrist with special training in Child Psychiatry was appointed on a part-time basis, which proved very helpful to the Clinic. The senior psychologist who had been on educational leave transferred to the Provincial Guidance Clinic in Calgary. Several staff members returned from education leave while others obtained leave-of-absence to further their educations. The clerical staff was brought up to strength with the appointment of a fourth stenographer.

The in-service training program was continued, which was essential for the training of persons for Clinic purposes, regardless of the University Degrees they held—particularly for those lacking practical clinical experience.

The demand for Clinic service continued high in both urban and rural areas.

New cases examined numbered 1,319, which was an increase of 113 cases over 1960. Re-examinations of cases who had been examined in previous years also increased by 71 over the previous year, making a total increase of 184 cases. The total work-load was 18,398, which represented an increase of 2,012 periods.

Age and Sex Distribution: As in the past two years the sex ratio of cases was 1.79 male to one female cases:

Age Distribution	Percentage
0 to 4	11.14%
5 to 19	84.01%
20 and over	4.85%

Classification of Types of New Cases: The percentage of cases in each classification remained essentially the same.

City of Edmonton: The total number of new cases was one less than 1960, while the number of cases registered increased from 58 to 447. The total work load was 16,081 periods, an increase of 2,014 periods which indicated a greater amount of time given to case treatment.

Edmonton Rural: One hundred and thirty-three new cases were examined and five were re-examined for an increase of 57 cases and a total work load of 221 periods.

Athabasca-Lac La Biche: Thirty-seven new cases were examined and ten were re-examined giving a work load of 161 periods which was an increase of 21 periods.

Barrhead-Westlock-Thorhild: Fifty-three new cases were examined and eight were re-examined which was an increase of 17 cases for a work load of 166 periods.

Camrose-Killam: Forty-three new cases were examined and eight were re-examined which was an increase of 11 cases for a work load of 188 periods and an increase of 28 periods.

Edson: Nineteen new cases were examined and two cases were re-examined. This was an increase of seven cases for a work load of 59 periods.

Lamont-Smoky Lake: No Clinics were held in Smoky Lake but eight new cases from this area were examined in Edmonton. Eighteen new cases were examined in Lamont. One Clinic was cancelled because of inclement weather so there was a net decrease of seven cases.

Peace River-Grande Prairie: Two trips were made to this area with an additional three-day trip being made to Grande Prairie in February. One hundred and thirty-eight new cases were examined and 48 cases were re-examined for an increase of 20 cases, 16 of which were re-examinations.

Bonnyville-St. Paul-Two Hills: Fifty-three new cases were examined and four were re-examined. One Clinic at Two Hills had to be cancelled so there was a net decrease of five cases from the previous year.

Vegreville-Vermilion-Wainwright: One hundred and seven new cases were examined and 31 cases were re-examined which was a net increase of 12 new cases and four re-examinations.

Wetaskiwin: Forty-two new cases were examined and four cases were re-examined which was an increase of ten new cases and a drop of nine re-examinations for a net increase of one case.

PROVINCIAL GUIDANCE CLINIC, PONOKA

**F. J. Edwards, M.D.C.M., Specialist in Psychiatry,
R.C.P.S.(C.), Clinic Psychiatrist**

During 1961 Guidance Clinics were again conducted by members of the staff of the Provincial Mental Hospital, Ponoka, on a part-time basis. The work was carried out by various members of the medical staff, social workers and psychologists. There was a fairly steady demand for Guidance Clinic services for both children and adults but it was only possible to give rather limited service because of the time element involved, the staff engaging in this work being full-time hospital personnel. Of the total number of new cases seen by the medical staff, the writer saw 76 per cent and 68 per cent of the re-registered cases. During 1961 a total of 73 cases was seen—45 new and 28 re-registered cases.

Ponoka: Thirty-seven new cases and 22 re-registered cases were seen for a total of 59 cases. Of these, four cases were seen at a Guidance Clinic in the Town of Ponoka, all being referred by the school. Fifty-five cases were seen at the Provincial Mental Hospital—these were referred mainly by the school or by general practitioners.

Stettler and Castor: Two Clinics were held at Stettler and one at Castor, at which a total of 14 cases was seen—eight new and six re-registered. These were referred by the school and by the Public Health Nurse.

Although not coming under the Guidance Clinics for statistical purposes, it should be stated that many Provincial Mental Hospital ex-patients were seen for purposes of review, including medication adjustment. These people were seen by members of the Provincial Mental Hospital staff in Calgary (Guidance Clinic Office) as well as in Ponoka.

The Clinics conducted from this centre consisted of one day spent in each town.

As in previous years, those examined were persons who presented some psychiatric, emotional or educational problem which was causing difficulty in adjustment in the home, school or community. In each case, efforts were made to evaluate the situation, and to come to some conclusion as to its cause. Advice was offered as to ways and means of dealing with the presenting situation, which often involved an attempt at environmental manipulation. Where local practitioners were involved, advice was given as required. In cases where epilepsy was considered in the differential diagnosis, arrangements were made for electroencephalography at the Provincial Mental Hospital, Ponoka.

PROVINCIAL GUIDANCE CLINIC, RED DEER

L. J. le Vann, L.R.C.P. Edin., L.R.C.S. Edin., L.R.F.P.S. Glas.,
Clinic Psychiatrist

Work Load: The work load at the Provincial Guidance Clinic, Red Deer, continued to increase in spite of the fact that the part-time staff had lost one psychologist and one social worker. There were 909 clinical hours this year used for therapy and guidance sessions compared with 832 last year, an increase of nine per cent. Of this total hour case-load, 86 new cases were examined and 37 re-registered patients were also seen and in many instances carried on a therapy basis. Twenty-one per cent of the total new cases examined were diagnosed as Intellectual Inadequacy.

Once again the services of Linden House personnel were utilized at the Clinic, two psychologists and two social workers were available during the first half of the year, who worked under the direction of the clinic psychiatrist. During the latter part of the year, the services of one psychologist and one social worker together with the clinic psychiatrist, all on a part-time basis, formed the complement.

Interviews and psychotherapy sessions were carried out by the clinic psychiatrist, psychologists and social workers in the following proportions:

One Psychiatrist	296 hours
Two Psychologists	314 hours
Two Social Workers	299 hours

In addition to these interviews, 84 psychometric examinations were made.

Age and Sex Distribution: The ratio of male to female cases was 1.46 to one. Of all the new cases 79 per cent were under the age of 20 years, 31.4 per cent being in the five to nine-year-age group.

Referral Agencies: Children's referrals this year came from the school principals and teachers as well as the Medical Officer of Health at Red Deer and his nursing staff. Other referrals came from medical practitioners in the district, Magistrates', Juvenile and Family Courts, Juvenile Offenders Branch and Welfare Departments. Again the Clinic assessed referred cases for the Medical Review Board of the Pensions' Branch.

Play therapy continued at the Provincial Building's Clinic office on a weekly basis.

Although the clinic team was not required to hold Clinics at Rocky Mountain House, a number of patients from the Rocky Mountain House area were referred to the Clinic in Red Deer.

PROVINCIAL GUIDANCE CLINIC, CALGARY

N. C. Horne, M.B., M.R.C.S., D.P.M., Clinic Psychiatrist

As in 1960, there were many staff changes; however, the Clinic continued with the following establishment:

Psychiatrists	2
Psychologists	5 (one part time)
Psychiatric Social Workers	4
Clinic Secretary	1
Stenographers	2

During the year the Clinic was unfortunate in losing the services of its senior social worker, as well as the psychologist from the University of Alberta, Calgary, who had assisted on a part-time basis since 1958. The latter's help, particularly in connection with in-service training of new staff, was greatly appreciated. However, the Clinic was fortunate in obtaining the services of a highly trained and experienced psychologist who transferred from the Provincial Guidance Clinic in Edmonton.

Clinic Quarters: To accommodate the increased staff, four offices were added, giving a total of 12 offices, a small play room, and a large play room — (the latter being used also for meetings and group therapy). One office was made available to appropriate medical staff from the Provincial Mental Hospital, Ponoka, to enable discharged patients to be seen, follow-up treatment to be carried out, collaterals to be interviewed and other business transacted. This move, initiated by the Provincial Mental Hospital, proved helpful to ex-patients and helped in maintaining good liaison between the Provincial Mental Hospital at Ponoka, and the Provincial Guidance Clinic in Calgary.

The Fire of December 8th and 9th, 1961: On December the 8th, 1961, a fire broke out in the Government Building in which the Clinic was located, but except for some smoke the Clinic was not affected by this; unfortunately, the following day the fire again broke out and created havoc and much destruction to Government offices, although no one was injured. Through the greatest possible assistance of the Fire Department and the Department of Public Works, most of the

Clinic records were salvaged, these being in a "more or less" legible condition. The Clinic was then re-established in the New Court House Building, on a temporary basis, where the work was resumed in an incredibly short time. The Clinic Director and his staff wish to take this opportunity to express sincere appreciation and thanks to the many departments and individuals who so untiringly and graciously assisted at this difficult time.

City of Calgary: The demand for Clinic services continued and a break-down of these services for the year 1961, appears below:

New Cases	499
Re-Registered Cases	399
Total	898

BREAKDOWN OF WORK-LOAD

Psychiatrists	3,214
Psychologists	2,827
Psychiatric Social Workers	3,510
Total	9,551

AGE AND SEX DISTRIBUTION OF CITY OF CALGARY CASES:

Age Distribution	Percentage
0 to 4 years	12.0
5 to 9 years	36.4
10 to 14 years	28.8
15 to 19 years	11.2
19 years and over	11.6

PROPORTION OF MALES TO FEMALES: Almost exactly two to one.

REFERRALS OF CASES TO THE CLINIC WERE MADE AS FOLLOWS:

Referral Source	Percentages
Self and Family	35.0
School	13.6
Child Welfare Agencies	20.2
Private Physicians and Welfare Agencies	18.2
Miscellaneous Sources	13.0

Disposal of Cases: Only 63 mental defectives were examined, which was a decrease of 33 from the previous year. Of these, 14 were recommended for admission to the Provincial Training School at Red Deer. Three emotionally disturbed children were admitted to Linden House, Red Deer. A total of 272 cases were treated in th Clinic, with 39 of these being on drug therapy.

Assistance to the Provincial Guidance Clinics at Lethbridge and Medicine Hat: The Psychiatrist in charge of the Calgary Clinic continued to pay regular visits to the Clinics at Lethbridge and Medicine Hat, until the return of the Lethbridge Clinic's full-time psychiatrist in October, 1961. During his absence the Medicine Hat Clinic was established on a full-time basis, with a psychiatric social worker in charge. The work-load of the Calgary staff in assisting the two above-mentioned Clinics was as follows:

	Lethbridge	Medicine Hat
Psychiatrist	475	211
Psychologists	64	123
Total	539	334

TOTAL WORK-LOAD: 873 periods.

Rural Districts:

Drumheller: Five new cases and five re-registered cases were seen at Drumheller, for a case-load of 68 periods.

Three Hills: Two Clinics were held at this centre during the year, and a total of 11 new cases and one re-registered case was seen, resulting in a work-load of 94 periods.

Hanna: Three new cases and one re-registered case were seen here, for a work-load of 29 periods.

GRAND TOTAL WORK-LOAD FOR CALGARY AND RURAL DISTRICTS

Psychiatrists	3,997
Psychologists	3,065
Psychiatric Social Workers	3,553
Grand Total	10,615

INCREASE OVER PREVIOUS YEAR: 932 periods.

Educational Activity: Talks and addresses to public organizations numbered 13. Psychology students from the University of Alberta, Calgary, visited the Clinic, as did groups from the Provincial Mental Hospital, Ponoka.

PROVINCIAL GUIDANCE CLINIC, LETHBRIDGE

J. Bower, M.D., D.P.M., Clinic Psychiatrist

In October, 1961, the full-time psychiatrist of this Clinic returned from Great Britain where he had been taking post-graduate training for one year, which led to his certification in the specialty of psychiatry. During his absence the Clinic functioned with the assistance of the psychiatrists from the Provincial Guidance Clinic in Calgary, one of whom visited the Lethbridge Clinic at least three days every month. Other Clinic staff consisted of two psychiatric social workers, part-time psychologists, and two clerical staff members.

Lethbridge Work-Load: In this area 210 new cases were examined and 163 re-registered cases were seen, for a total work-load of 2,748 periods. The staff also assisted at the Medicine Hat Clinic, but the statistics for the latter Clinic appear under a separate heading.

Treatment Procedures: Approximately 50 cases were carried in all types of therapy during the year. With the return of the full-time psychiatrist the work was accelerated. Many cases benefited and were discharged from treatment, and a majority of the cases handled were helped.

Work with Other Institutions: Consultant service was carried on at the School for Retarded Children, and for the Law Courts. Visits were made to the Prison upon request. Many cases requiring advice to adults were seen. Attendance at the Provincial Auxiliary Mental Hospitals at Claresholm and Raymond was recommenced. An in-service training program was commenced for the benefit of Public Health nurses and social workers.

Public Education: Many speaking engagements were carried out by the staff, as well as participation in education and social welfare conferences and seminars. On these occasions it was possible to discuss individual problems with teachers and other interested workers, and, in addition, to disseminate mental health ideas in these areas. Appearances on radio and television helped to spread public understanding of mental health problems and the work of the Guidance Clinics in

this field. The usual good relations were maintained with physicians and clergy, which groups were instrumental in referring many cases to the Clinic. Good liaison with other local agencies and institutions was maintained.

Appreciation: A great deal of support and encouragement was received locally, both from the various professional groups with whom the Clinic was associated, and from individuals, for which the Clinic was deeply appreciative. The assistance rendered by the Provincial Guidance Clinic, Calgary, was also greatly appreciated.

PROVINCIAL GUIDANCE CLINIC, MEDICINE HAT
(Branch of the Provincial Guidance Clinic, Lethbridge)

J. Bower, M.D., D.P.M., Clinic Psychiatrist

In April, 1961, this Clinic opened as a full-time branch of the Provincial Guidance Clinic at Lethbridge, having been originally established as a part-time Clinic on November 16th, 1933. The Provincial Guidance Clinic at Medicine Hat served an area which extended to the towns of Bassano, Brooks and Bow Island on the west, to the United States' border on the south, east to the Saskatchewan border, and north approximately to the Red Deer River. The population of this area, which included the City of Medicine Hat, was approximately 47,000.

Staff: The psychiatrist who was in charge of the Provincial Guidance Clinic at Lethbridge, was also in charge of the branch Clinic at Medicine Hat, which he visited regularly. The full-time staff consisted of one psychiatric social worker and one clerical staff member. Because of the absence of the Lethbridge psychiatrist, who as explained previously, was in Great Britain on educational leave for the first nine months of 1961, a psychiatrist and psychologist from the Provincial Guidance Clinic in Calgary, visited the Medicine Hat Clinic each month.

Referral Sources: Cases were referred to the Clinic by schools, medical clinics, health units, welfare agencies, relatives and individuals, including many self-referrals.

Work-Load: The work of this Clinic expanded considerably as a result of its full-time functioning. The previous year only eight new cases and nine re-registered cases were seen, as compared to 122 new cases and 30 re-registered cases in 1961. This amounted to a total workload of 1,178 periods.

Services Provided: Diagnostic services, recommendations to referral sources, assessment of students considered for special classes which were being established in the City of Medicine Hat, as well as some individual psychotherapy to children and adults, were provided by the Clinic.

Public Education: Public information was provided whenever possible, through lectures, addresses and Clinic demonstrations. Every effort was made to interpret the work of the Clinic, particularly in respect to its preventive and restorative functions.

Appreciation: The support of school administrative personnel, medical practitioners, public health nursing staffs, social agency staffs, and others, was most heartening and very greatly appreciated. It is hoped the Clinic services may be progressively expanded to meet the increasing demands of the community.

TABLE 1
SUMMARY OF NEW AND RE-REGISTERED CASES EXAMINED, TREATMENT PERIODS, INTERVIEWS,
PSYCHOLOGICAL EXAMINATIONS, AND TOTAL WORK LOAD OF CLINICS

CLINIC DISTRICTS	NEW CASES				RE-REGISTERED CASES				DISTRIBUTION OF WORK					TOTAL WORK LOAD
	M		T		M		F		Pat.	Col.	Gen.	P. E.		
	M	F	T	F	M	F	T	I						
Edmonton and District.....	847	472	1319	354	220	574	4574	5505	6489	1830	18,398			
Calgary and District.....	339	179	518	286	140	406	2894	3726	3143	852	10,615			
Lethbridge, Medicine Hat and Districts.....	195	137	332	110	83	193	1057	1831	642	396	3,926			
Ponoka and Red Deer District.....	76	55	131	41	24	65	550	402	27	114	1,093			
TOTALS.....	1457	843	2300	771	467	1238	9075	11,464	10,301	3192	34,032			

Notes: Total new cases examined since the Clinics opened in 1929 is now 29,210.

Edmonton and District includes all the area served from Wetaskiwin north. It includes Clinics held in the Peace River - Grande Prairie area and such points as Athabasca, Barrhead, Bonnyville, Camrose, Edson, Holden, Killam, Lac La Biche, Lamont, St. Paul, Two Hills, Vegreville, Vermilion, Wainwright, Westlock and Wetaskiwin.

Calgary and District includes the area served south of Didsbury, excluding the Lethbridge-Medicine Hat area. It includes Clinics held at such points as Didsbury, Drumheller, Cochrane, High River and Strathmore.

Lethbridge, Medicine Hat and Districts include the area in the far south of the Province, with Clinics held at such points as Fort Macleod, Claresholm, Cardston and the Crow's Nest Pass.

Ponoka and Red Deer District includes the area from Didsbury on the south to Wetaskiwin on the north. It includes Clinics at such points as Castor, Ponoka, Red Deer, Rimbey, Rocky Mountain House and Stettler.

Re-registered cases are those that have been examined previously at a Clinic, and are seen again for further consultation and/or treatment.

Pat.—Patient contacts including treatment periods.

Col.—Collateral, or contacts with a patient's parents, or relatives, or with others closely interested.

Gen.—General contacts regarding Clinic activities and Community Services. It includes as well talks and addresses and teaching periods by staff members.

P. E.—Psychological examinations and tests.

Total Work Load—This is the sum of the periods of work noted under each of the four headings: Patient, Collateral, General and Psychological Examinations.

TABLE 2
AGE AND SEX CLASSIFICATION OF NEW CLINIC CASES

AGE GROUP	EDMONTON AND DISTRICT			CALGARY AND DISTRICT			LETHBRIDGE, MEDICINE HAT AND DISTRICTS			PONOKA AND RED DEER DISTRICT			TOTALS			PERCENTAGES		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
0-4	87	60	147	43	17	60	9	6	15	7	4	11	146	87	233	10.0	10.3	10.1
5-9	373	202	575	130	57	187	61	40	101	25	8	33	589	307	896	40.4	36.4	39.0
10-14	255	121	376	110	41	151	55	36	91	17	11	28	437	209	646	30.1	24.8	28.1
15-19	89	68	157	31	28	59	26	17	43	12	6	18	158	119	277	10.8	14.1	12.0
20-24	6	5	11	7	9	16	9	11	20	2	5	7	24	30	54	1.6	3.6	2.3
25-29	4	6	10	4	7	11	7	11	18	0	5	5	15	29	44	1.0	3.4	1.9
30-34	7	1	8	4	3	7	10	1	11	0	3	5	23	8	31	1.6	1.0	1.3
35-39	9	5	14	4	8	12	11	5	16	3	3	6	27	12	48	1.9	2.5	2.1
40-44	3	1	4	1	4	5	1	1	2	1	6	7	6	12	18	0.4	1.4	0.8
45-49	4	1	5	1	3	4	1	1	1	1	1	2	7	6	13	0.5	0.7	0.6
50 and over	10	2	12	4	1	5	4	8	12	6	3	9	24	14	38	1.6	1.7	1.7
Unknown	0	0	0	0	1	1	1	0	1	0	0	0	1	1	2	0.1	0.1	0.1
TOTALS	847	472	1319	339	179	518	195	137	332	76	55	131	1457	843	2300	100.0	100.0	100.0

TABLE 3A
 DIAGNOSTIC CLASSIFICATION OF NEW CLINIC CASES—PRE-SCHOOL GROUP (0 to 5 years 11 months)

Nature of Case	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals					
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T			
	Educational Problem with Adequate Intellect	28	19	47	2	4	6	0	1	1	0	0	1	0	0	1	30	23	53
Intellectual Inadequacy	46	40	86	21	12	33	8	5	13	6	4	10	6	8	14	81	61	142
Emotional Disorder	32	12	44	7	31	38	2	2	4	2	0	2	2	2	4	60	21	81
Thinking Disorder	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	2	0	2
Speech Disorder	15	7	22	4	4	8	1	0	1	0	0	1	1	0	2	21	7	28
Faulty Feeding Habits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sleep Disturbances	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Anti-Social Trends	1	0	1	2	1	3	0	0	0	0	0	0	0	0	0	3	1	4
Sexual Difficulties	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Attack Disorders	3	0	3	1	1	2	0	0	0	0	0	0	0	0	0	4	1	5
Psychoneuroses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psychoses	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Non-Psychotic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Normal Child	7	8	15	12	11	23	4	2	6	0	0	1	0	0	1	23	21	44
Undiagnosed	5	2	7	0	1	1	8	7	15	0	0	0	0	0	0	13	10	23
TOTALS	140	90	230	66	35	101	24	17	41	10	5	15	240	147	387			

TABLE 3B
 DIAGNOSTIC CLASSIFICATION OF NEW CLINIC CASES—SCHOOL AGE GROUP (6 years to 18 years 11 months)

Nature of Case	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Fonoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	Educational Problem with Adequate Intellect	292	89	381	85	10	45	34	15	49	17	3	20	378	117	485
Intellectual Inadequacy	81	55	136	33	24	57	28	23	49	10	5	15	150	107	257
Emotional Disorder	164	109	273	86	38	124	18	11	29	4	6	10	272	164	436
Thinking Disorder	9	5	14	0	8	3	0	2	2	2	0	2	11	10	21
Speech Disorder	17	6	23	4	0	3	0	0	0	5	0	5	26	6	32
Faulty Feeding Habits	0	0	0	1	0	1	1	0	0	0	0	0	0	0	1
Sleep Disturbances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anti-Social Trends	51	36	87	36	5	42	7	4	11	6	5	11	100	51	151
Sexual Difficulties	3	4	7	6	10	16	1	2	3	0	0	0	10	16	26
Attack Disorders	9	11	20	2	2	9	3	0	0	2	0	2	13	11	24
Psychoneuroses	3	17	20	2	0	2	1	0	4	0	3	3	11	23	34
Psychoses	5	6	11	0	0	0	3	0	1	0	0	0	6	6	12
Non-Psychotic	6	8	14	1	0	2	3	1	4	1	0	1	11	10	21
Normal Child	13	8	21	32	11	43	8	4	12	2	0	2	55	23	78
Undiagnosed	11	4	15	7	1	8	27	16	43	1	1	2	46	22	68
TOTALS	664	358	1022	249	107	356	129	79	208	50	23	73	1092	567	1659

TABLE 3C
 DIAGNOSTIC CLASSIFICATION OF NEW CLINIC CASES—ADULT GROUP (19 years and over)

Nature of Case	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	Educational Problem with Adequate Intellect	3	5	8	2	3	3	0	0	0	0	0	0	5	6	11
Intellectual Inadequacy	22	8	30	2	7	10	6	8	14	1	1	2	32	24	56
Emotional Disorder	3	0	3	2	10	12	2	1	3	0	0	1	5	11	16
Thinking Disorder	1	0	1	1	0	1	1	0	1	0	0	0	2	1	3
Speech Disorder	1	0	1	1	0	1	0	0	0	0	0	0	2	0	2
Faulty Feeding Habits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sleep Disturbances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anti-Social Trends	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sexual Difficulties	0	0	0	6	0	6	1	1	3	1	0	1	8	1	10
Attack Disorders	1	1	2	0	0	0	0	0	0	0	0	0	1	2	3
Psychoneuroses	1	1	2	4	5	9	2	5	7	4	13	19	11	27	38
Psychoses	5	7	12	0	3	3	5	10	10	2	6	8	12	16	28
Non-Psychotic	7	5	12	2	8	10	3	0	3	4	5	5	13	17	30
Normal	0	0	0	1	1	2	2	2	5	0	0	0	4	7	11
Undiagnosed	0	0	0	2	1	4	19	18	37	5	1	6	26	21	47
Totals: Table 3C	43	24	67	24	37	61	42	41	83	16	27	43	125	129	254
Table 3B	664	358	1022	249	107	356	129	79	208	50	23	73	1082	567	1659
Table 3A	140	90	230	66	35	101	24	17	41	10	5	15	240	147	387
GRAND TOTALS	847	472	1319	339	179	518	195	137	332	76	55	131	1457	843	2300

TABLE 4
SOURCES REFERRING NEW CASES TO THE CLINICS

Referring Source	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	Schools and School Authorities	321	141	462	50	28	78	71	44	115	19	8	27	461	221	682
Private Doctors and Medical Clinics	115	87	202	58	36	94	25	23	48	21	21	42	219	167	386
Medical Clinics, as Rehabilitation, Cerebral Palsy, T.B., O.P.D.	34	22	56	6	2	8	2	1	3	0	2	2	42	27	69
Health Units, Medical Health Officers, Public Health Nurses	119	73	192	17	7	24	24	19	43	14	7	21	174	106	280
Child Welfare Agencies, Provincial and Municipal Juvenile and Family Court, Juvenile Offenders' Branch, Bowden Institution	53	54	107	69	32	101	21	18	39	0	3	3	143	107	250
Provincial Gaols, Adult Courts	20	13	33	6	0	6	10	5	15	5	0	5	41	18	59
Parents, Relatives, Friends, and Self	1	0	1	3	0	3	4	0	0	0	1	1	8	1	9
Department of Public Health	158	73	231	116	61	177	23	23	46	9	5	14	306	162	468
Other Sources	1	1	2	4	8	12	0	0	0	0	1	1	1	5	10
	25	8	33	10	5	15	15	4	19	8	7	13	58	24	82
TOTALS	847	472	1319	339	179	518	195	137	332	76	55	131	1457	843	2300

TABLE 5
MAJOR RECOMMENDATIONS MADE IN REGARD TO NEW CLINIC CASES

Recommendations	Edmonton and District		Calgary and District		Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals			
	M	F	M	F	M	F	T	M	F	T	M	F	T	
	Admission to:													
(a) Mental Hospital	6	5	0	1	1	2	2	4	1	2	3	9	10	19
(b) Provincial Training School	38	25	11	4	15	0	1	1	5	6	11	54	36	90
(c) Deerhome	0	0	0	0	0	2	0	2	0	0	0	2	0	2
Placement in:														
(a) Protective or Correctional Home or Institution	23	28	1	2	3	0	0	0	1	1	2	25	31	56
(b) Foster Home	12	11	9	5	14	2	0	2	0	1	1	23	17	40
Educational Advice:														
(a) Modified School Program or Special Class Placement	170	94	28	19	47	47	39	86	14	0	14	259	152	411
(b) Vocational Counselling	36	18	54	6	15	4	4	4	1	1	2	50	26	79
(c) Other	115	27	142	49	28	77	4	5	6	2	8	174	58	232
Modified Home Management	153	87	98	38	136	27	17	44	3	2	5	281	144	425
Referred for Medical Treatment	59	39	98	5	8	11	3	14	11	15	26	86	60	146
Treatment in Guidance Clinic	108	71	179	96	47	37	27	64	19	17	36	260	162	422
Other Recommendations	127	67	194	33	59	59	43	102	15	8	23	234	144	378
TOTALS	847	472	1319	339	179	518	195	137	332	76	55	1457	843	2800

TABLE 6
SUMMARY OF THE NUMBER OF MENTAL DEFECTIVES EXAMINED, BY YEARS

Year	I. Q. 0 to 25 Probably Idiots			I. Q. 26 to 50 Probably Imbeciles			I. Q. 51 to 75 Probably Morons			I. Q. Unknown, Mental Deficiency Indicated			Totals				Percentage of New Cases	Cumulative Totals
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T			
1951	7	13	20	33	35	68	85	70	155	3	6	9	128	124	252	20.0%	2998	
1952	7	4	11	36	67	114	114	94	208	4	2	6	161	131	292	22.7%	3250	
1953	6	4	10	30	39	69	102	68	170	19	7	26	157	118	275	18.1%	3542	
1954	3	4	7	42	43	85	125	93	218	13	12	25	183	159	342	23.2%	3817	
1955	5	3	8	54	40	94	127	95	222	30	17	47	206	155	361	23.6%	4152	
1956	7	5	12	65	46	111	146	88	234	27	21	48	245	160	405	23.0%	4523	
1957	11	13	24	40	32	72	115	86	201	18	41	59	184	154	338	20.7%	4923	
1958	16	11	27	38	29	67	119	80	199	24	51	75	197	147	344	18.7%	5266	
1959	13	10	23	56	44	100	159	121	280	27	15	42	255	190	445	23.3%	6055	
1960	3	1	4	37	34	71	137	98	235	20	11	31	197	144	341	16.2%	6396	
1961	13	14	27	40	33	73	154	118	272	55	38	93	262	203	465	20.2%	6861	

Notes: I. Q.—Intelligence Quotient
M—Male F—Female T—Totals

ACTIVE TREATMENT MENTAL HOSPITALS

THE PROVINCIAL MENTAL HOSPITAL, PONOKA

THE PROVINCIAL MENTAL INSTITUTE, EDMONTON

The Provincial Mental Hospital, Ponoka, admitted 893 patients—(524 males, 369 females—including re-admissions). The Provincial Mental Institute, Edmonton, admitted 1,243 patients—(686 males, 557 females—including re-admissions). The total number of admissions to these hospitals was 2,136 patients—(1,210 males, 926 females). The total number of admissions (including re-admissions), was 189 greater than the previous year. Again this increase might be explained in part by the increased demand for the admission of seniles, and an increase in the general population of the Province. The Provincial Mental Hospital, Ponoka, admitted 18 remand cases, whereas the Provincial Mental Institute, Edmonton, reported the admission of 214 remand cases in the same period.

The discharge rate of the two hospitals averaged approximately 83 per cent. This was five per cent greater than the previous year.

The combined population of the Provincial Mental Hospital, Ponoka, and the Provincial Mental Institute, Edmonton, on December 31st, 1961, numbered 2,630—(1,749 males, 881 females).

Both active treatment hospitals reported increased activity in their treatment programs consisting of the use of tranquillizer and antidepressant drugs, group therapy and activities and occupational therapies. It was again reported that electro-convulsant and insulin coma treatments were reduced in number. Emphasis was placed on the "open-door" policy.

The Provincial Mental Hospital, Ponoka, transferred four mentally deficient patients to Deerhome; and the Provincial Mental Institute, Edmonton, transferred 45 mentally deficient patients to the same institution. The Provincial Mental Hospital, Ponoka, transferred 58 senile patients to Rosehaven, Camrose; and the Provincial Mental Institute, Edmonton, transferred 63 senile patients to the same institution during the year.

The various Nurses' Training Programs continued in both active treatment mental hospitals. Seven students completed the four-year course in General and Psychiatric Nursing at the Provincial Mental Hospital, Ponoka. Thirteen male students completed the three-year course in Psychiatric Nursing, and 12 Graduate Nurses completed the six-month Post-Basic Course at the same hospital. In addition, 263 undergraduate students from the General Hospital Schools of Nursing of the southern part of Alberta received the eight-week affiliation course in Psychiatric Nursing in the Provincial Mental Hospital, Pon-

oka. At the Provincial Mental Institute, Edmonton, 19 students (12 men, seven women)—completed the three-year course in Psychiatric Nursing, while 216 affiliating students from the General Hospital Nursing Schools in the northern part of the Province received a period of eight weeks' training.

Extensive renovations continued at the Provincial Mental Hospital, Ponoka, involving the Nurses' Residence and the kitchen and bakery facilities. Renovations of a women's building were completed, and this resulted in markedly improved conditions for the patients.

TABLE 1
TABULATED SUMMARY—INSTITUTIONS—MOVEMENT OF POPULATION

Institutions	Patients in Hospital December 31, 1960			Admissions (Excluding Transfers)			Discharges (Excluding Transfers)			Deaths			Patients in Hospital December 31, 1961		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
ACUTE MENTAL HOSPITALS:															
P.M.H., Ponoka	772	280	1052	524	369	893	420	326	746	68	16	84	772	402	1174
P.M.H., Edmonton	949	461	1410	686	557	1243	585	453	1038	79	32	111	977	479	1456
Total	1721	741	2462	1210	926	2136	1005	779	1784	147	48	195	1749	881	2630
CHRONIC MENTAL HOSPITALS:															
Rosehaven, Camrose	286	219	505	*0	*0	*0	2	3	5	69	48	117	281	221	502
P.A.M.H., Claresholm	0	105	105	*0	*0	*0	0	1	1	0	0	0	0	108	108
P.A.M.H., Raymond	0	129	129	0	6	6	0	3	3	0	11	11	0	131	131
Total	286	453	739	0	6	6	2	7	9	69	59	128	281	460	741
INSTITUTIONS FOR MENTAL DEFECTIVES,															
RED DEER:															
Provincial Training School	424	332	756	70	51	121	27	14	41	5	2	7	408	310	718
Deerhome	321	490	811	20	20	40	2	9	11	4	5	9	388	442	830
Total	745	822	1567	90	71	161	29	23	52	9	7	16	796	752	1548
UNIT FOR EMOTIONALLY DISTURBED CHILDREN:															
Linden House, Red Deer	14	6	20	5	4	9	1	3	4	0	0	0	15	6	21
Overall Total	2766	2022	4788	1305	1007	2312	1037	812	1849	225	114	339	2841	2099	4940

*All admissions are by Transfer from other Alberta Mental Hospitals and are not included.

TABLE 2
DIAGNOSIS BY FIRST ADMISSION

DIAGNOSTIC CLASSIFICATION	Male	Female	Total
Syphilis with Psychosis	1	0	1
Schizophrenia (All Categories)	152	101	253
Manic Depressive (All Categories)	21	16	37
Involitional Melancholia	30	29	59
Paranoia and Paranoid States	21	14	35
Senile Psychosis	74	62	136
Pre-Senile Psychosis	6	7	13
Psychosis with Cerebral Arteriosclerosis	55	44	99
Alcoholic Psychosis	34	6	40
Psychosis of Other Demonstrable Etiology	17	6	23
Other and Unspecified Psychoses	25	19	44
Anxiety Reaction	12	13	25
Hysterical Reaction	2	7	9
Obsessive-Compulsive Reaction .....	....	1	1
Neurotic Depressive Reaction	28	46	74
Other and Unspecified Psychoneurotic Reactions	6	19	25
Pathological Personality (All Categories)	64	25	89
Immature Personality	6	5	11
Alcoholism	94	9	103
Other Drug Addiction .....	....	2	2
Primary Childhood Behaviour Disorders	10	24	34
Mental Deficiency	11	22	33
General Paralysis of Insane	2	....	2
Late Effects of Acute Infectious Encephalitis .....	....	1	1
Epilepsy	9	4	13
Other and Unspecified	4	6	10
Mental Observation without Need for Further Psychiatric Care	24	11	35
Other Non-Psychiatric Conditions	2	....	2
TOTALS	710	499	1209

TABLE 3—TABULATED SUMMARY OF DEATHS IN INSTITUTIONS DURING 1961

DISEASE	P.M.H., Ponoka			P.M.I., Edmonton			P.A.M.H., Claresholm			P.A.M.H., Raymond			Rosehaven Camrose			P.T.S., Red Deer			Deerhome, Red Deer			TOTALS					
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T			
1. Tuberculosis of Respiratory System	1	1	2	5	5	5																			5	1	2
3. Syphilis and Sequelae	2	2	2	1	1	1																			1	1	2
17. All Other Diseases Classified as Infective and Parasitic	2	2	4	5	3	8							3	1	4										2	1	3
18. Neoplasms Malignant	2	2	2																						1	1	1
19. Neoplasms Benign	2	2	2																						1	1	1
20. Diabetes Mellitus																									2	2	2
22. Vascular Diseases of Central Nervous System	6	2	8	25	13	38				2	2	9	6	15	15	1	1	1	1	1	1	1	1	1	41	25	66
26. Arteriosclerotic and Degenerative Heart Disease	9	5	14	25	7	32				3	3	22	54			4	1	5	1	1	1	1	1	1	66	38	104
27. Other Diseases of the Heart	11	2	13	7	4	11				1	1	1	1	1	1										22	9	31
28. Hypertension with Heart Disease	1	1	1							1	1	1	1	1	1										1	1	2
31. Pneumonia	18	2	20	4	4	4				4	4	4	19	43	43	1	1	1	1	1	1	1	1	1	47	26	73
33. Ulcer of Stomach and Duodenum													1	1	1										1	1	1
37. Chirrosis of the Liver	2	1	3																						2	1	2
38. Nephritis and Nephrosis	1	1	1																						1	1	1
45. Senility	9	9	9	8	4	12																			17	17	21
46. All Other Diseases	2	1	3																						4	4	4
49. Suicides and Self-Inflicted Injury																									2	2	3
GRAND TOTALS	68	16	84	79	32	111				11	11	117	48	117	117	5	2	7	4	5	9	225	114	339			

*Linden House, Red Deer (Unit for Emotionally Disturbed Children) No Deaths.

PROVINCIAL MENTAL HOSPITAL, PONOKA

T. C. Michie, M.D., R.C.P.S.(C.), Medical Superintendent

PATIENT POPULATION CHANGES

The number of patients in residence on January 1st, 1961 was 1,052, of whom 772 were male, and 280 female. On December 31st, 1961, 1,174 were in residence, and of these 772 were male, and 402 female. The increase in the number of females was more than accounted for by the transfer back to this hospital of 157 patients, temporarily accommodated at Deerhome, in Red Deer, pending completion of renovations to a large building here.

ADMISSION OF PATIENTS

Exclusive of transfers from other Provincial Mental Institutions, 893 patients were admitted, of whom 524 were male, and 369 female. This was 37 more than the number in 1960. There was a marked increase in voluntary admissions, and a comparable decrease in those by Warrant.

One hundred and sixty-four patients were received by transfer from other Provincial Mental Institutions.

SEPARATION OF PATIENTS

Seven hundred and forty-six patients were discharged, of whom 420 were male, and 326 female.

Ninety-nine patients were transferred to other Provincial Mental Institutions. Eighty-four patients died, nearly all being of advanced years. The details are as set forth in Table I.

ACCIDENTS AND ELOPEMENTS

Nine female and six male patients suffered fractures from falls, some of these being of a minor nature.

One woman, and three men suicided. One of the latter left the hospital without permission, and took his life in his own home.

A comparatively small number of patients left hospital without permission. The majority of these were returned by relatives and others by the Royal Canadian Mounted Police.

GENERAL HEALTH OF PATIENTS

The physical health of patients was well maintained. There were no epidemics of consequence.

Nine patients were transferred to the Tuberculosis Unit at the Provincial Mental Institute, Edmonton, for investigation, and treatment, when indicated.

CLINICAL WORK

All currently accepted methods of treatments were utilized. These included a large variety of drugs, electro-convulsive therapy, group and individual psychotherapy, and occupational therapy. Insulin shock

treatment was discontinued, it being felt the expense and staff time involved did not warrant its use, when balanced against the possible benefit to those receiving it.

It was decided to make more intensive use of the regular hospital industries as rehabilitation agencies, and to encourage the employment of patients as individuals, and in groups, in projects in the surrounding neighbourhood.

A Rehabilitation Committee was organized at the hospital, headed by the Clinical Director, and liaison established with a comparable organization in the City of Calgary.

In occupational therapy the emphasis was on industrial activities, particularly in regard to long term patients. The crafts were utilized largely for those recently admitted, who for the most part, were in hospital for short term care.

A group of five General Practitioners from the Town of Ponoka assumed the major responsibility for physical illness among the patients. Specialists were called from Edmonton and Red Deer, as the need arose.

Free use was made of the Cancer Clinic in Edmonton for diagnosis and treatment.

A Consultant in Tuberculosis from the Provincial Mental Institute, Edmonton, came, whenever requested, to assess suspected cases.

Patients with physical disorders requiring the services of Specialists, were transferred for such to General Hospitals in Red Deer and Edmonton.

In September, a new service was extended to the City of Calgary. With the authorization of the Director of the Division of Mental Health, and the cooperation of the Provincial Guidance Clinic, Calgary, office space was made available for an Out-patient Clinic. The objective at inception was to have recently discharged patients from Calgary and vicinity seen by appointment, and whenever possible, the person in attendance to be the Physician directly responsible for the patient's care while in hospital. Eight one-half day Clinics were held in the last three months of 1961. The patient attendance was about 80 per cent of those invited. It is felt this service was of considerable value.

The number of out-patients coming directly to the hospital continued to increase. As in previous years, Guidance Clinics were conducted at various points in Central Alberta, with personnel from this hospital.

RECREATIONAL THERAPY

The recreational needs of the patients were very adequately met by a program gauged to meet all age levels, in keeping with the seasons and many other circumstances.

RELIGIOUS SERVICES

Clergy from the Town of Ponoka continued to give valued help to the hospital. Church services were held each Sunday, and special services at other times. Many patients were seen individually, at the request of the patient, his or her relatives, or the patient's Physician.

SOCIAL SERVICES — SOCIAL WORKER

One Worker was employed, and he travelled over the southern half of the province. Calls were made on former and prospective patients. Liaison was maintained with welfare agencies in the various cities. The Worker also assisted with group therapy and rehabilitation plans at the hospital.

PSYCHOLOGICAL SERVICES — PSYCHOLOGIST

During the greater part of the year, the services of two Psychologists were available. Psychological tests were administered to 354 patients, and in many instances, these were multiple. A Psychologist accompanied the Guidance Clinic team which operated from the hospital to various points in central Alberta. The Psychologist assisted with group therapy sessions, and also took an active part in the Teaching program of the School of Nursing.

DENTAL SERVICES

A full time Dentist was employed. Nearly 3,000 examinations were made, and approximately 3,500 different procedures carried out. In addition to the work here, he made the regular annual trip to the Auxiliary Hospitals at Claresholm and Raymond.

X-RAY SERVICES

Two Technicians were employed, and 3,800 plates taken. Chest plates on patients and staff were referred to the Baker Memorial Sanatorium for interpretation. Most of the other plates were read by Medical Staff. When necessary, plates were referred to Specialists in Edmonton and Red Deer.

LABORATORY

One Technician was employed. In general, all essential procedures were carried out here. On occasions, specimens were referred to the Provincial Laboratory. Electroencephalographic tracings were made by a Technician from the Provincial Mental Institute, and interpreted by an Edmonton Neurologist.

MEDICAL EDUCATION

Throughout the University academic year, senior medical students in groups of from three to five, were in residence at the hospital, for a two-week period. A regular program of instruction by the Medical Staff was arranged. Three members of the Medical Staff assisted in the Teaching of Psychiatry at the University of Alberta.

One Graduate Student from the University of Alberta completed a year of training here in preparation for the examination in

Psychiatry of The Royal College of Physicians and Surgeons of Canada.

Members of the Medical Staff addressed public meetings at various points in the province.

SCHOOL OF NURSING

The only changes in the program were in keeping with a gradually evolving pattern currently considered desirable in Nursing education. There were nine full time Instructors.

At the end of the year, there were 45 students registered in the four-year course leading to the qualification in General and Psychiatric Nursing. Twenty of these were away as affiliates at General Hospital Schools of Nursing. Seven students completed this course in 1961 and were successful in the examination qualifying them for registration by The Alberta Association of Registered Nurses.

The Post-Basic Course in Psychiatric Nursing for Graduates was offered twice. Twelve were enrolled in the first group commencing February 1st. All completed the course, and were awarded diplomas on July 31st. Three students enrolled in the second course in September, and were still in residence at the end of the year.

Sixty-four male students received instruction in the three-year course in Psychiatric Nursing. Of these, 13 completed the course on August 31st. For a variety of reasons, 16 men discontinued their studies, and at the end of the year, 35 were in attendance.

Two hundred and sixty-three undergraduate students from all General Hospital Schools of Nursing in southern Alberta, were received in the eight-week Affiliation Course in Psychiatric Nursing, and in addition, ten Graduate Nurses without Psychiatric experience availed themselves of this instruction.

Twelve students in Public Health Nursing from the University of Alberta spent two weeks in this School as part of their field work.

During the year, Nursing Aides and Ward Aides were given limited formal instruction in Psychiatric Nursing. Ward Aides were also taught some of the rudiments of Nursing Arts.

NURSING SERVICES

It was possible to maintain these at a good level of efficiency. There was considerable stress on rehabilitation measures with groups of long care patients. All nursing procedures were in keeping with patterns being currently developed in psychiatric treatment.

VISITORS

A large number came throughout the year to visit their relatives in hospital.

Under the sponsorship of the Calgary Branch of The Canadian Mental Health Association, groups of citizens were brought to see the hospital facilities.

Two Regional Church Organizations meeting in Ponoka were convened at the hospital.

A group of Municipal Police attending a school of instruction in Calgary, under the aegis of the Calgary City Police Department spent a day here as part of the curriculum.

A number of local women's organizations undertook and carried out projects in relation to patient welfare.

Dr. Morgan Martin, Chief, Mental Health Division, Department of National Health and Welfare, Ottawa, spent a day here, as did Miss Jean Dorgan, Social Work Consultant of the same branch.

The Honourable, Dr. J. Donovan Ross, Minister of Health inspected the hospital, a number of times, as did also Dr. R. R. MacLean, Director of The Division of Mental Health.

An unannounced visit was made by the Lieutenant-Governor, the Honourable J. Percy Page. He interviewed informally a large number of patients, all of whom were deeply appreciative, as were also the members of the staff.

The Visiting Board made its usual detailed inspection to inquire into all matters relative to patient care.

THE EUGENICS BOARD

The Eugenics Board held five meetings at the hospital. Nineteen cases were presented to the Board and approved for sexual sterilization. Of these, 10 patients were sterilized.

SURGICAL SERVICES

These were rendered by visiting Surgeons from Red Deer, Ponoka, and Edmonton. Some major surgical cases were transferred for treatment to the Red Deer Municipal Hospital, and to the University Hospital, Edmonton.

HOUSEKEEPING DEPARTMENT

The wards were well maintained and every effort was made to keep them attractive and comfortable.

FIRE PROTECTION

The Fire Brigade was maintained at a high degree of efficiency, both as to equipment and personnel. The Nursing staff received regular instruction regarding prevention, and measures to be taken in case of fire. Each building was inspected once a month by members of the Fire Brigade, this being the responsibility of those firemen allocated to stand-by duty at night.

NEW BUILDINGS AND EQUIPMENT

The reconstruction of the power house was completed. Two new steam turbine generators were installed, and placed in use.

The reconstruction of the main kitchen and bakeshop was continued throughout the year.

The renovation of building four, five and six, now known as Lawncrest, was completed and occupied by patients early in the year. This has proved of great benefit to the female patients who were resi-

dent in the building, and also to those who utilized its dining and other facilities.

The reconstruction of the women's staff residence was continued, but was not complete at the end of the year.

A new electroencephalographic machine was installed, and also various other items of medical equipment.

BUSINESS OFFICE

This department operated with its usual efficiency.

PROVINCIAL MENTAL HOSPITAL FARM

The moisture conditions were poor, and because of this, the hay and grain production was below average. The yield of root crops, as well as the egg and milk production were satisfactory.

ANCILLARY SERVICES

These departments, including the laundry, print shop, sewing room, shoe shop and tailor shop all gave satisfactory service. A re-arrangement of equipment was made in the laundry to promote efficiency.

THE DEPARTMENT OF PUBLIC WORKS

Maintenance Department

The buildings were well maintained. A great deal of painting was done, both to interiors and exteriors. All equipment was regularly inspected and serviced. The program of renovating staff houses was continued.

Mechanical Branch

Under the direction of the Chief Engineer, the hospital was adequately supplied with heat, light, power and sewage facilities. Due to power plant renovation and reconstruction, all power in the early months of the year was supplied by the Calgary Power Company. In March, the new hospital generators were placed in use, but the connection was maintained with Calgary Power. During the latter months of the year, 95 per cent of the power required was generated locally.

CONCLUSION

During the year 1961 the intake of patients was greater than any other in the history of the hospital. The discharge rate was correspondingly high. It was, therefore, possible for the hospital to meet its responsibilities without increasing the resident population. There were indications that the growing population in the province, with consequent increased demands for hospital care, would within the foreseeable future, place a greater strain on the facilities of the hospital. In the meantime, it can be said that the newer therapeutic agents and techniques have given very satisfactory results.

Those responsible for administration at the hospital are most grateful for the encouragement and direction given by the senior officers of the Department of Public Health.

DEPARTMENT OF PUBLIC HEALTH

PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA

TABLE 1

MOVEMENT OF PATIENT POPULATION DURING THE YEAR 1961

	M			F			T		
In residence December 31st, 1960	772	280	1052						
On Leave or otherwise absent	43	35	78						
On the books as of December 31st, 1960	815	315	1130						
ADMISSIONS:									
First Admissions:	M	F	T	M	F	T	M	F	T
Voluntary	66	82	148						
Certificates	90	68	158						
Warrant	160	54	214						
Re-admissions:				316	204	520			
Voluntary	88	98	186						
Certificates	27	34	61						
Warrant	93	33	126						
Transfers in:				208	165	373			
				6	169	175			
							530	538	1068
							1345	853	2198
SEPARATIONS:									
Discharges:									
Recovered	150	124	274						
Improved	162	153	315						
Unchanged	5	9	14						
Not Psychotic	103	40	143						
Deaths				420	326	746			
Transfers out:				68	16	84			
				44	55	99			
							532	397	929
On the books December 31st, 1961	813	456	1269						
On Leave or otherwise absent	41	54	95						
In residence December 31st, 1961	772	402	1174						

TABLE 2

PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA

PATIENT POPULATION BY PSYCHOSES—December 31st, 1961

CLASSIFICATION:	Male	Female	Total
Syphilis with Psychosis	36	2	38
Schizophrenia	419	200	619
Manic Depressive	31	35	66
Involutional Melancholia	19	15	34
Paranoia and Paranoid States	50	33	83
Senile Psychosis	24	27	51
Pre-Senile Psychosis	3	8	11
With Cerebral Arteriosclerosis	24	27	51
Alcoholic Psychosis	21	2	23
Other and Unspecified Psychosis	77	23	100
Anxiety Reaction	4	...	4
Hysterical Reaction	1	...	2
Neurotic Depressive Reaction	2	7	9
Other Psychoneurotic Reactions	3	6	9
Pathological Personality	14	5	19
Alcoholism	12	2	14
Mental Deficiency	14	5	19
Epilepsy	5	1	6
Behaviour Disorder	1	...	1
Other and unspecified	2	...	2
Without need for further care	4	2	6
Other non-psychiatric conditions	6	1	7
TOTALS	772	402	1174

TABLE 3
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
FIRST ADMISSIONS DURING 1961 BY PSYCHOSES

CLASSIFICATION:	Male	Female	Total
Syphilis with Psychosis	1	....	1
Schizophrenia	69	45	114
Manic Depressive	11	4	15
Involuntal Psychosis	23	17	40
Paranoia and Paranoid States	13	12	25
Senile Psychosis	35	16	51
Pre-senile Psychosis	2	4	6
With Cerebral Arteriosclerosis	24	16	40
Alcoholic Psychosis	23	3	26
Other and Unspecified Psychoses	17	14	31
Anxiety Reactions	3	8	11
Hysterical Reaction	1	2	3
Neurotic Depressive Reaction	15	21	36
Other Psychoneurotic Reactions	2	12	14
Pathological Personality	29	12	41
Alcoholism	27	1	28
Drug Addiction .....	....	2	2
Mental Deficiency	1	4	5
Epilepsy	3	....	3
Other and unspecified	3	5	8
Mental observation without need for further care	12	6	18
Other non-psychiatric conditions	2	....	2
TOTALS	316	204	520

TABLE 4
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
AGE OF FIRST ADMISSIONS DURING 1961

Age	Male	Female	Totals
Under 15 years .....	....	3	3
15 to 19 years	18	9	27
20 to 24 years	25	20	45
25 to 29 years	31	19	50
30 to 34 years	30	25	55
35 to 39 years	29	23	52
40 to 44 years	26	15	41
45 to 49 years	24	16	40
50 to 54 years	29	13	42
55 to 59 years	12	7	19
60 to 64 years	16	9	25
65 to 69 years	12	15	27
70 to 79 years	39	26	65
80 years and over	25	4	29
TOTALS	316	204	520

TABLE 5
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
DISCHARGES BY PSYCHOSES AND CONDITION ON DISCHARGE

CLASSIFICATION	Recovered		Improved		Un- changed		Not Psy.		Totals		
	M	F	M	F	M	F	M	F	M	F	T
Syphilis with Psychosis .....	....	....	1	....	....	....	....	....	1	....	1
Schizophrenia	65	40	80	56	3	1	....	....	148	97	245
Manic Depressive	26	31	16	9	....	....	....	....	42	40	82
Involuntal Psychosis	15	17	8	18	....	....	....	....	23	35	58
Paranoia and Paranoid States .....	....	....	22	22	1	3	....	....	23	25	48
Senile Psychosis .....	....	....	2	2	....	....	....	....	2	2	4
Pre-senile Psychosis .....	....	....	....	....	....	1	....	....	....	1	1
With Cerebral Arteriosclerosis	1	....	6	5	1	....	....	....	8	5	13
Alcoholic Psychosis	24	4	2	2	....	....	....	....	26	6	32
Other and Unspecified	8	11	11	13	....	....	....	....	19	24	43
Anxiety Reaction	1	4	4	8	....	....	....	....	5	12	17
Hysterical Reaction	1	2	1	2	....	....	....	....	2	4	6
Obsessive-Compulsive Reaction .....	....	....	2	....	....	....	....	....	....	2	2
Neurotic Depressive Reaction	9	12	7	4	....	4	....	....	16	20	36
Other Psychoneurotic Reactions .....	....	3	....	12	....	....	....	....	....	15	15
Pathological Personality .....	....	....	....	....	....	....	41	11	41	11	52
Alcoholism .....	....	....	....	....	....	....	37	7	37	7	44
Drug Addiction .....	....	....	....	....	....	....	1	3	1	3	4
Mental Deficiency .....	....	....	....	....	....	....	5	3	5	3	8
Epilepsy .....	....	....	....	....	....	....	6	1	6	1	7
Other and Unspecified disorders .....	....	....	....	....	....	....	3	11	3	11	14
Mental observation without need for further care .....	....	....	....	....	....	....	10	4	10	4	14
TOTALS	150	124	162	153	5	9	103	40	420	326	746

TABLE 6
 PROVINCIAL MENTAL HOSPITAL—PONOKA, ALBERTA
 DISCHARGES BY PSYCHOSES AND DURATION OF RESIDENCE

CLASSIFICATION	Under 3 months		Under 6 months		Under 1 year		Over 1 year		Totals		
	M	F	M	F	M	F	M	F	M	F	T
Syphilis with Psychosis	1	...	...	...	...	...	...	...	1	...	1
Schizophrenia	63	62	42	21	18	6	25	8	148	97	245
Manic Depressive	29	25	8	8	3	2	2	5	42	40	82
Involuntal Psychosis	18	20	5	9	...	5	...	1	23	35	58
Paranoia and Paranoid States	9	14	11	5	1	1	2	5	23	25	48
Senile Psychosis	2	2	...	...	...	...	...	...	2	2	4
Pre-senile Psychosis .....	...	...	...	1	...	...	...	...	...	1	1
With Cerebral Arteriosclerosis	4	2	2	2	1	1	1	...	8	5	13
Alcoholic Psychosis	21	4	4	2	1	...	...	...	26	6	32
Other and Unspecified Psychosis	5	13	6	8	2	1	6	2	19	24	43
Anxiety Reaction	3	6	2	4	...	1	...	1	5	12	17
Hysterical Reaction	1	3	...	1	1	...	...	...	2	4	6
Obsessive-Compulsive Reaction	1	...	1	...	...	...	...	...	2	...	2
Neurotic Depressive Reaction	13	19	2	1	1	...	...	...	16	20	36
Other Psychoneurotic Disorders .....	...	11	...	3	...	1	...	...	...	15	15
Pathological Personality	27	8	10	3	2	...	2	...	41	11	52
Alcoholism	30	6	4	...	3	1	...	...	37	7	44
Drug Addiction .....	...	3	...	...	1	...	...	...	1	3	4
Mental Deficiency	3	2	2	...	...	...	...	1	5	3	8
Epilepsy	2	...	1	1	3	...	...	...	6	1	7
Other and Unspecified disorders	2	8	1	2	...	1	...	...	3	11	14
Mental observation without need for further care	10	4	...	...	...	...	...	...	10	4	14
TOTALS	244	212	101	71	37	20	38	23	420	326	746

TABLE 7
 PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
 CAUSES OF DEATH DURING 1961

CLASSIFICATION	ABRIDGED INTERNATIONAL CLASSIFICATION		
	Male	Female	Totals
3. Syphilis and its sequelae	1	1	2
17. Other diseases classified as infective	2	...	2
18. Malignant neoplasms	2	2	4
19. Benign neoplasms	1	...	2
20. Diabetes Mellitus	2	...	2
22. Vascular lesions of C.N.S.	6	2	8
26. Arteriosclerotic and degenerative heart disease	9	5	14
27. Other diseases of heart	11	2	13
28. Hypertension with heart disease	1	...	1
31. Pneumonia	18	2	20
38. Nephritis and nephrosis	2	1	3
45. Senility	1	...	1
46. All other diseases	9	...	9
49. Suicide and self inflicted injury	2	1	3
TOTALS	68	16	84

TABLE 8
 DEATHS BY PSYCHOSES

	Male	Female	Totals
Syphilis with psychosis	2	1	3
Schizophrenia	13	1	14
Manic Depressive	1	2	3
Paranoia and Paranoid States	3	1	4
Senile Psychosis	17	6	23
Pre-senile Psychosis	2	...	2
With Cerebral Arteriosclerosis	11	1	12
Alcoholic Psychosis	2	...	2
Other and Unspecified Psychoses	15	1	16
Neurotic Depressive Reaction .....	...	2	2
Mental Deficiency	1	1	2
Other non-psychiatric conditions	1	...	1
TOTALS	68	16	84

PROVINCIAL MENTAL INSTITUTE, EDMONTON

A. D. MacPherson, M.D., R.C.P.S. (C.), Medical Superintendent

PATIENT POPULATION CHANGES

On December 31, 1960, there were in residence 949 men and 461 women patients, a total of 1,410. This was an increase of 46 patients. However, there were 157 patients on leave or otherwise absent, compared to 206 on leave or otherwise absent in 1960. The total patient population in residence, and on leave or otherwise absent, on December 31, 1961, was 1,613. This was a decrease of 3 over the previous year.

ADMISSION OF PATIENTS

During the year 686 men and 557 women were admitted, for a total of 1,243. In addition, 15 men and 10 women were transferred from different Mental Institutions in the Province, making a total of 701 men and 567 women admitted. A combined total of 1,268 was admitted during the year. This was an increase of 148 from the previous year. Admissions by Voluntary application were 528, by Medical Certificates 373, by Warrant 322 and under the Mental Defectives Act there were 20.

SEPARATION OF PATIENTS

During the year 585 men and 453 women, a total of 1,038 was discharged. This was an increase of 186 over the previous year. In addition, 46 men and 76 women, a total of 122, was transferred to other Mental Institutions. There were 111 deaths, at least 83 being associated with degenerative changes due to old age, during the year. There were 55 autopsies performed. The total number of separations during the year was 1,271. During the year more than 2,300 patients were out on leave for periods longer than 24 hours.

GENERAL HEALTH

This was good during the year. There were no epidemics. T.A.B.T. immunization was carried out on all admissions and new staff. Chest X-rays were done on all new staff, plus a complete re-survey of all patients and staff.

CLINICAL WORK

During the year the use of tranquillizing drugs was continued on a large scale. New preparations were being tried constantly as they became available. There was a constant review of the effects of the various tranquillizers in use. It was felt there was a marked improvement in the continued treatment group. There was a considerable reduction in the amount of electro-shock treatment used, and the use of insulin-coma decreased markedly. Group therapy continued to expand. The open-door policy continued to expand. Approximately one-half of the patients had the privilege of being out and around the grounds by themselves. Nearly all the remaining patients were allowed out on the grounds accompanied by nursing staff.

OCCUPATION THERAPY

Occupational therapy continued to play a very large part in the treatment program. Therapy was carried out on all the wards, as well as in the Occupational Centre.

SOCIAL SERVICES

The work in this field continued to increase, especially in the investigation of family background, rehabilitation of discharged patients, and in public relations.

PSYCHOLOGIST

As far as possible, all new patients and especially all remand cases, were given a battery of psychological tests. This work was invaluable in the clinical program. In addition, the psychologists took an active part in the group therapy program.

RECREATIONAL PROGRAM

A full-time program was continued. This covered all wards and forms of recreational activity. The recreational activities began in the forenoon and continued through to evenings daily. The D.V.A. continued to assist in providing stage shows, tickets to many activities in the City, et cetera. During the year groups of volunteers from the Canadian Mental Health Association continued to take part in the patients' activities, and the Women's Catholic League and Lutheran Ladies' Group continued their visiting group program. The United Church continued to develop their visiting group program and they added to the number of visiting groups.

RELIGIOUS SERVICES

The Lutheran Minister continued to be very helpful. He held services every Sunday and brought out visiting groups. The Roman Catholic services were held every Sunday. Anglican and United Church services were held alternating Sundays. The Jewish and Ukrainian women's organizations visited frequently. The Chinese Benevolent Association also visited regularly.

LIBRARY

This Department remained very active during the year. It was open daily. During the year the patients were fortunate in receiving a very large number of donations of magazines for the library. The D.V.A. donated a large number of books during the year.

BEAUTY PARLOR

This Department remained very active. The number of patients receiving treatment here continued to increase constantly.

DENTAL SERVICES

All patients were examined regularly during the year and, where required, treatment was carried out. All new admissions were also examined and treated. Various types of treatments carried out amounted to 2,853. In addition, the dentist supplied services to Rosehaven, Camrose, and held clinics for students of the University of Alberta.

X-RAY SERVICES

During the year 4,398 examinations were done. In addition, short-wave diathermy treatments, B.C.G. vaccinations and tuberculin tests

of new staff and patients were done by this Department. This department, in spite of being very busy, carried out the work in a very efficient manner.

LABORATORY SERVICES

During the year 17,669 examinations were done. This was an increase of approximately 2,000 over the previous year. Both laboratory and X-Ray departments assisted in the training given to technicians from the school operated by the Department of Public Health, students being sent here for two-week periods of instruction.

SURGICAL SERVICES

Surgical services were rather active. There were 62 major operations and 31 minor operations, 30 other procedures, 6 casts and 6 deliveries done.

ELECTROENCEPHALOGRAPH

A total of 396 E.E.G.'s, 117 E.C.G.'s and 59 B.M.R.'s were carried out during the year. In addition, the technician did the E.E.G. work at the Provincial Mental Hospital, Ponoka.

SCHOOL OF NURSING

Nineteen students graduated in Psychiatric Nursing in 1961, completing a three-year course—twelve were men and seven were women. At the end of the year there was a total of 79 students—51 women and 28 men—taking the three-year course. The affiliation program for student nurses from the general hospitals was continued. Two hundred and sixteen students (plus one deferred student) were given an eight-week course in Psychiatric Nursing throughout the year. The average number of students in attendance on each course was 36. These affiliation students came from the Edmonton General Hospital, Misericordia Hospital, Royal Alexandra Hospital, St. Joseph's General Hospital, Vegreville, and the Archer Memorial Hospital, Lamont. In addition, 21 graduate nurses enrolled in the Diploma Course in Public Health Nursing at the University of Alberta, spent two weeks at the Provincial Mental Institute, Edmonton, for field experience. In-service training consisting of ward teaching and short courses of lectures were continued for all staff. The ward charge group were given 40 hours of re-orientation to Psychiatric Nursing.

BUILDING AND MAINTENANCE

The maintenance service was excellent as usual. No new construction was done.

FIRE PROTECTION

Regular fire practices were held throughout the year. Instructions were given throughout the hospital to all new staff. The fire equipment was inspected and was kept at a peak of efficiency. No fires occurred during the year.

HOUSEKEEPING

This department continued to function efficiently. Everything possible was done to keep the wards comfortable and attractive.

LAUNDRY

The laundry was very busy. The new building and equipment worked out very satisfactorily. A total of 1,722,793 pounds of laundry was done in 1961.

TAILOR AND SEWING SHOP

Both departments were very busy. Work consisted mostly of repairs and was very well done, resulting in a very considerable saving of the clothing.

SHOE REPAIRS

This department was very active and very busy. Excellent work was done.

DIETARY DEPARTMENT

The dietary department continued to function very well. In addition to the large number of ordinary meals to staff, an average daily population amounting to around 2,000, there was also a large number of special diets required.

POLICE COURT

This service continued to be very busy. A large number of cases were sent out on remand. A number of the medical staff appeared in court on numerous occasions in connection with this work. Although this service involved a considerable amount of work, it was felt this particular service was justified. There was a total of 214 remands during the year. This was an increase of 17 from the previous year.

BUSINESS OFFICE

This department was very active. The work continued to expand. Further up-to-date equipment was added.

MEDICAL RECORDS

With the large number of admissions and discharges the work of this department was greatly increased and was carried out very efficiently.

HOSPITAL FARM

This was a very good year. Crop and milk production were high.

GARDENS AND GROUNDS

The garden crop was very good and the yield was high. The quality of vegetables was also very good. The production was sufficient to supply the hospital needs throughout the year and there was a vegetable surplus.

STAFF

The staff situation, both male and female, remained satisfactory. There was very little difficulty keeping the establishment filled, except that there continued to be a marked shortage of graduate nurses.

VISITORS

During the year the hospital was visited regularly by the Honourable J. Donovan Ross, M.D., Minister of Health; by Dr. Randall R. MacLean, Director, Division of Mental Health; and by the Honourable Gordon Taylor, Minister of Highways. The Visiting Board carried out its annual inspection. A number of community organizations also conducted visits to the hospital, as did the Canadian Mental Health Association.

PUBLIC RELATIONS

Members of the staff continued to address public organizations whenever possible, on the work of the hospital and problems in the psychiatric fields.

The work of the hospital continued to increase. There were 148 more admissions than in 1960. In addition, there were a number of admissions under Warrant to Apprehend, not shown on the admission table. This increase threw a very heavy burden of work on all personnel in the hospital.

Community interest and participation in the hospital activities continued and was most helpful.

In conclusion, we would like to express appreciation to the Honourable J. Donovan Ross, M.D., and Dr. MacLean, for their sympathetic understanding and help.

TABLE I
MOVEMENTS OF PATIENT POPULATION DURING 1961

	M	F	T	M	F	T
Total on books December 31, 1960 (As corrected from 1960 report).....				1055	561	1616
On leave or otherwise absent				106	100	206
Total in residence December 31, 1960				949	461	1410
ADMISSIONS:						
FIRST ADMISSIONS:						
(a) Voluntary	130	89	219			
(b) Medical Certificates	137	143	280			
(c) Warrant	119	61	180			
(d) Mental Defectives Act	8	2	10			
TOTAL	394	295	689			
READMISSIONS:						
(a) Voluntary	160	149	309			
(b) Medical Certificates	37	56	93			
(c) Warrant	85	57	142			
(d) Mental Defectives Act	10	...	10			
TOTAL	292	262	554			
TRANSFERS IN:	15	10	25			
TOTAL ADMISSIONS:	701	567	1268			
SEPARATIONS:						
DISCHARGES:						
(a) Recovered	281	295	576			
(b) Improved	167	47	214			
(c) Much Improved	101	75	176			
(d) Unimproved	4	1	5			
(e) Unchanged	32	35	67			
TOTAL	585	453	1038			
TRANSFERS OUT:	46	76	122			
DEATHS:	79	32	111			
TOTAL SEPARATIONS:	710	561	1271			
Total on books December 31, 1961				1046	567	1613
On leave or otherwise absent				69	88	157
Total in residence December 31, 1961				977	479	1456

DEPARTMENT OF PUBLIC HEALTH

TABLE 2
PSYCHOSES OF THE PATIENT POPULATION—DECEMBER 31, 1961

	Male	Female	Total
300 Schizophrenic Disorders	614	290	904
301 Manic-Depressive Reaction	40	40	80
302 Involutional Melancholia	10	26	36
303 Paranoia and Paranoid States	35	9	44
304 Senile Psychosis	36	41	77
305 Presenile Psychosis	5	11	16
306 Psychosis with Cerebral Arteriosclerosis	35	35	70
307 Alcoholic Psychosis	19	2	21
308 Psychosis of Other Demonstrable Etiology	43	12	55
309 Other and Unspecified Psychoses	34	11	45
310 Anxiety Reaction Without Mention of Somatic Symptoms.....	1	4	5
311 Hysterical Reaction Without Mention of Anxiety Reaction .....	.....	2	2
314 Neurotic-Depressive Reaction	10	11	21
318 Psychoneurotic Disorders, Other, Mixed, and Unspecified Types	3	12	15
320 Pathological Personality	24	9	33
321 Immature Personality	2	3	5
322 Alcoholism	22	3	25
324 Primary Childhood Behaviour Disorders	6	9	15
325 Mental Deficiency	61	19	80
326 Other and Unspecified Character, Behaviour and Intelligence Disorders	1	.....	1
020 Juvenile Neurosyphilis	1	.....	1
025 General Paralysis of Insane	22	5	27
026 Other Syphilis of Central Nervous System	3	1	4
083 Late Effects of Acute Infectious Encephalitis	1	1	2
353 Epilepsy	12	10	22
688 Puerperal Psychosis .....	.....	1	1
793 Observation without Need of Further Medical Care	6	.....	6
TOTAL	1046	567	1613

TABLE 3
PSYCHOSES BY FIRST ADMISSION—1961

	Male	Female	Total
300 Schizophrenic Disorders	83	56	139
301 Manic-Depressive Reaction	10	12	22
302 Involutional Melancholia	7	12	19
303 Paranoia and Paranoid States	8	2	10
304 Senile Psychosis	39	46	85
305 Presenile Psychosis	4	3	7
306 Psychosis with Cerebral Arteriosclerosis	31	28	59
307 Alcoholic Psychosis	11	3	14
308 Psychosis of other Demonstrable Etiology	17	6	23
309 Other and Unspecified Psychoses	8	5	13
310 Anxiety Reaction Without Mention of Somatic Symptoms	9	5	14
311 Hysterical Reaction Without Mention of Anxiety Reaction	1	5	6
313 Obsessive-Compulsive Reaction .....	.....	1	1
314 Neurotic-Depressive Reaction	13	25	38
318 Psychoneurotic Disorders, Other, Mixed and Unspecified Types	4	7	11
320 Pathological Personality	35	13	48
321 Immature Personality	6	5	11
322 Alcoholism	67	8	75
324 Primary Childhood Behaviour Disorders	10	24	34
325 Mental Deficiency	10	18	28
326 Other and Unspecified Character, Behaviour and Intelligence Disorders	1	1	2
025 General Paralysis of Insane	2	.....	2
083 Late Effects of Acute Infectious Encephalitis .....	.....	1	1
353 Epilepsy	6	4	10
793 Observation Without Need for Further Medical (Psychiatric) Care	12	5	17
TOTAL	394	295	689

TABLE 4
AGES OF PATIENTS ADMITTED DURING 1961

Ages	First Admission			Readmission			Transfers			Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Under 15 years	8	12	20	2	.....	2	.....	.....	.....	10	12	22
15 to 19 years	24	40	64	10	14	24	.....	.....	.....	34	54	88
20 to 24 years	28	23	51	27	30	57	1	2	3	56	55	111
25 to 29 years	30	31	61	37	27	64	.....	.....	.....	67	58	125
30 to 34 years	44	28	72	39	35	74	.....	.....	.....	83	63	146
35 to 39 years	46	17	63	50	48	98	.....	.....	.....	96	65	161
40 to 44 years	39	18	57	33	27	60	.....	.....	.....	72	45	117
45 to 49 years	33	16	49	30	24	54	2	.....	2	65	40	105
50 to 54 years	31	13	44	20	21	41	2	2	4	53	36	89
55 to 59 years	22	11	33	16	14	30	3	2	5	41	27	68
60 to 64 years	12	15	27	15	11	26	.....	.....	.....	27	26	53
65 to 69 years	15	10	25	3	6	9	3	1	4	21	17	38
70 and over	62	61	123	10	5	15	4	3	7	76	69	145
TOTAL	394	295	689	292	262	554	15	10	25	701	567	1268

TABLE 5
DISCHARGES CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSIS AND CONDITIONS FOR 1961

PSYCHOSES	Recovered			Improved			Much Improved			Unimproved			Unchanged			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
300 Schizophrenic Disorders	174	142	316	5	5	10	19	19	38	...	...	...	...	...	198	166	364
301 Manic-Depressive Reaction	20	35	55	...	...	...	...	...	...	...	...	...	...	...	20	35	55
302 Involutional Melancholia	5	19	24	...	...	...	...	...	...	...	...	...	...	...	5	19	24
303 Paranoid and Paranoid States	2	4	6	1	1	2	4	3	7	1	1	1	...	...	8	8	16
304 Senile Psychosis	...	...	...	2	1	3	5	...	...	...	...	...	...	...	4	4	8
305 Presenile Psychosis	...	...	...	1	1	2	1	1	1	1	1	1	...	...	2	2	4
306 Psychosis with Cerebral Arteriosclerosis	...	...	...	5	3	8	1	2	3	...	...	...	...	...	7	6	13
307 Alcoholic Psychosis	11	5	16	3	1	4	10	4	14	...	...	...	...	...	11	5	16
308 Psychosis of other Demonstrable Etiology	3	4	7	3	1	4	10	4	14	...	...	...	...	...	17	9	26
309 Other and Unspecified Psychosis	4	4	8	2	2	2	2	2	6	1	1	1	...	...	8	9	17
310 Anxiety Reaction	8	8	16	...	...	...	...	...	...	...	...	...	...	...	10	8	18
311 Hysterical Reaction	2	6	8	...	...	...	1	...	1	...	...	...	...	...	3	6	9
313 Obsessive-Compulsive Reaction	2	2	4
314 Neurotic-Depressive Reaction	22	38	60	1	...	1	...	1	1	1	1	1	...	...	23	39	62
318 Psychoneurotic Disorders, etc.	4	7	11	...	...	...	...	...	...	...	...	...	...	...	5	8	13
320 Pathological Personality	11	6	17	35	7	42	23	8	31	2	2	10	4	14	81	25	106	
321 Immature Personality	1	3	4	6	4	10	1	1	2	1	1	1	1	2	9	9	18	
322 Alcoholism	7	...	7	97	9	106	18	1	19	1	1	1	1	3	123	12	135	
323 Other Drug Addiction	1	1	2
324 Primary Childhood Behaviour Disorders	7	9	16	2	2	7	9	7	18	25	3	5	20	25	16	35	51	
325 Mental Deficiency	1	1	2	4	2	6	...	3	3	...	...	...	...	...	9	26	35
326 Behaviour Disorders	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	6
025 General Paralysis of Insane	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
083 Late Effects of Acute Infectious Encephalitis	...	...	...	3	2	5	7	6	13	...	...	...	...	...	1	2	3
353 Epilepsy	...	...	...	1	...	1	...	1	1	...	...	...	...	...	10	8	18
793 Observation without Further Medical Care	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	12	23
TOTAL	281	295	576	167	47	214	101	75	176	4	1	5	32	35	585	453	1038	

TABLE 6
DISCHARGES DURING 1961 SHOWING DURATION OF RESIDENCE IN HOSPITAL

PSYCHOSES	Under 3 mths.			Under 6 mths.			Under 9 mths.			Under 12 mths.			Under 18 mths.			Under 2 years			Over 2 years			TOTAL				
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T		
300 Schizophrenic Disorders	92	65	157	59	55	114	20	14	34	10	13	23	5	5	10	4	5	9	8	9	17	198	166	364		
301 Manic-Depressive Reaction	10	16	26	8	13	21	...	2	2	2	1	3	4	1	1	2	...	...	...	...	...	20	35	55
302 Involutional Melancholia	4	4	8	1	10	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	19	24
303 Paranoia and Paranoid States	5	2	7	1	5	6	...	1	2	1	1	2	...	...	...	...	...	...	...	...	...	8	8	16
304 Senile Psychosis	2	2	4	...	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	6
305 Presentile Psychosis	2	1	3	2	1	3	
306 Psychosis with Cerebral Arteriosclerosis	4	3	7	2	3	5	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	7	5	12
307 Alcoholic Psychosis	9	5	14	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17	17	34
308 Psychosis, Other Demonstrable Etiology	11	6	17	3	3	6	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	17	9	26
309 Other and Unspecified Psychosis	1	5	6	3	2	5	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	8	8	16
310 Anxiety Reaction	10	7	17	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	10	13
311 Hysterical Reaction	1	5	6	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	5	8
312 Obsessive-Compulsive Reaction	1	1	2	2	4	
313 Neurotic-Depressive Reaction	17	26	43	3	11	14	2	1	3	1	...	...	...	...	...	...	...	...	...	...	...	23	39	62
314 Psychoneurotic Disorders, etc.	4	6	10	1	2	3	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	8	13
315 Pathological Personality	62	18	80	10	5	15	6	...	6	3	1	4	...	...	...	...	...	...	...	...	...	81	25	106
320 Immature Personality	7	7	14	...	2	2	1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	1	9	10
321 Alcoholism	112	10	122	10	1	11	1	1	1	2	...	...	...	...	...	...	...	...	...	...	...	123	12	135
322 Other Drug Addiction	16	55	71	
323 Primary Childhood Behaviour Disorders	12	29	41	2	4	6	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	9	26	35
324 Mental Deficiency	7	22	29	2	3	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	26	35
325 Other and Unspecified Disorders	2	1	3	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	6
026 General Paralysis of Insane	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
083 Late Effects of Acute Encephalitis	1	...	1	
353 Epilepsy	5	4	9	1	2	3	5	1	1	1	1	1	...	...	...	...	...	...	...	...	...	2	10	12
793 Observation Without Further Medical Care	11	5	16	1	12	6	18	
TOTAL	391	252	643	110	127	237	39	21	60	18	24	42	9	8	17	6	10	16	12	11	23	585	453	1038		

TABLE 7
DEATHS DURING 1961 BY ABRIDGED INTERNATIONAL STATISTICS
CLASSIFICATION

	Male	Female	Total
1. Tuberculosis of respiratory system	5	....	5
17. All other diseases classified as infective and parasitic .....	....	1	1
18. Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissues	5	3	8
22. Vascular lesions affecting central nervous system	25	13	38
26. Arteriosclerotic and degenerative heart disease	25	7	32
27. Other diseases of heart	7	4	11
31. Pneumonia	4	....	4
46. All other diseases	8	4	12
TOTAL	79	32	111

TABLE 8
DEATHS DURING 1961 BY PSYCHOSIS

	Male	Female	Total
300 Schizophrenic Disorders	21	8	29
301 Manic-Depressive Reaction	1	1	2
302 Involutional Melancholia .....	....	1	1
303 Paranoia and Paranoid States	4	....	4
304 Senile Psychosis	22	9	31
305 Presenile Psychosis .....	....	1	1
306 Psychosis with Cerebral Arteriosclerosis	18	11	29
307 Alcoholic Psychosis	2	....	2
308 Psychosis of Other Demonstrable Etiology	5	1	6
309 Other and Unspecified Psychoses	1	....	1
314 Neurotic-Depressive Reaction	2	....	2
325 Mental Deficiency	1	....	1
025 General Paralysis of Insane	1	....	1
083 Late Effects of Acute Infectious Encephalitis	1	....	1
TOTAL	79	32	111

CHRONIC HOSPITALS

PROVINCIAL AUXILIARY MENTAL HOSPITAL, CLARESHOLM

PROVINCIAL AUXILIARY MENTAL HOSPITAL, RAYMOND, ROSEHAVEN, CAMROSE

The patient population of 112 women patients at the Provincial Auxiliary Mental Hospital, Claresholm, remained the same, pending the opening of the new wards. Eight patients were received by transfer from the Provincial Mental Hospital, Ponoka.

Construction of the new services building—(power-house, kitchen and laundry) — at the Provincial Auxiliary Mental Hospital, Claresholm, was completed toward the close of the year. The construction of two new wards, one of which was the infirmary, continued, but was not completed at year-end.

The Provincial Auxiliary Mental Hospital, Raymond, continued to care for 134 women. Nine patients were received by transfer from the Provincial Mental Hospital, Ponoka and six patients were admitted direct from the community.

Rosehaven, Camrose, continued to care for a mixed population of 510 patients. There was a noticeable decline in general health of the patients as a result of aging processes. One hundred and seventeen deaths occurred during the year. Fifty-eight patients were received by transfer from the Provincial Mental Hospital, Ponoka, and 63 patients were received likewise from the Provincial Mental Institute, Edmonton. As formerly, a number of patients were granted leaves-of-absence from time to time.

PROVINCIAL AUXILIARY MENTAL HOSPITAL,
CLARESHOLM

**R. R. MacLean, M.D., Cert. in Neurol. and Psychiatry,
F.A.P.A., Cert. M.H.A. (A.P.A.)**

MOVEMENT OF PATIENTS

There were 105 patients in residence January 1, 1961, and 108 patients December 31, 1961.

Seven patients were transferred here from the Provincial Mental Hospital, Ponoka, and five patients were transferred to Ponoka for further medical examination. One patient was transferred to a Calgary Hospital for surgery.

One patient was discharged as unimproved, and no patients died.

NEW BUILDINGS

The construction on an infirmary ward and another ward was completed.

A parking area and cement walks were put in.

ACCIDENTS AND ELOPEMENTS

There were no elopements, or accidents of a serious nature during the year.

GENERAL HEALTH

The general health of the patients was good. Many of the older patients became more helpless and incontinent and required more nursing care.

The Mobile Unit of the Division of Tuberculosis Control X-Rayed all the patients in August. No tuberculosis was found.

Emergency X-Ray and laboratory tests were done at the Claresholm Municipal Hospital.

OCCUPATIONAL DEPARTMENT

The articles made in the Occupational Department were sold throughout the year.

One ward aide was assigned to the deteriorated patients on the ward. These patients were encouraged to do simple tasks or take part in action games. Some of them made squares for small afghans which were used by the helpless patients when they were sitting up.

During the summer months a ward aide took a group of patients out to the garden. The patients enjoyed this form of occupation.

RECREATIONAL ACTIVITIES

The usual parties were held, and a sports day was held out at one of the picnic spots. It was not possible to have any lawn parties due to the construction of the new parking area.

The staff drove the patients around town to see the Christmas lights. The staff used their cars frequently, and donated their time to bring pleasure to the patients.

The local organizations continued to entertain the patients after their Callow Coach rides during the summer months.

Two ladies from the district came once a week during the winter and taught a dancing class and rhythm band.

The United Church Choir and carollers visited the hospital.

BEAUTY PARLOUR

Most of the patients had their hair done regularly by the ward staff.

RELIGIOUS SERVICES

Local clergymen conducted services each Sunday afternoon. Roman Catholic services were conducted once a month.

DENTISTRY

The Dentist, from the Provincial Mental Hospital, Ponoka, visited the hospital in June and gave the necessary dental care. Emergency dental work was done by the local dentist.

FIRE PROTECTION

The buildings were inspected by the fire inspector. Fire practices were held and equipment checked regularly.

BUILDINGS

The maintenance staff made the necessary repairs to the buildings and equipment.

GARDENS AND GROUNDS

Due to an extremely dry season the vegetable crop was only fair.

VISITORS

The Visiting Board visited the hospital in August.

Dr. R. R. MacLean, Director, Division of Mental Health, visited the hospital several times and his help and advice were greatly appreciated.

Relatives and friends visited the patients during the year.

TABLE 1
MOVEMENT OF PATIENT POPULATION DURING 1961

	M	F	T	M	F	T
In residence January 1, 1961	105	105
On leave or otherwise absent	6	6
ADMISSIONS:						
FIRST ADMISSIONS:						
(a) Voluntary
(b) Certificate
(c) Warrant
(d) M. D. Act
RE-ADMISSIONS:						
(a) Voluntary
(b) Certificate
(c) Warrant
(d) M. D. Act
Transfers	8	8	.....	8	8
Total Admissions	8	8	.....	119	119
SEPARATIONS:						
DISCHARGES:						
(a) As Recovered
(b) As Improved
(c) As Unimproved	1	1	.....	1	1
Total Discharges	1	1	.....	.....	.....
Transfers	6	6	.....	6	6
Deaths
Total Separations	7	7
On leave or otherwise absent	112	112
In Residence December 31, 1961	4	4
In Residence December 31, 1961	108	108

TABLE 2
ORIGINAL DIAGNOSIS ON ADMISSION TO MENTAL HOSPITAL

	Male	Female	Total
03 Psychoses with Epidemic Encephalitis	2	2
08 Psychoses with Cerebral Arteriosclerosis	2	2
11 (a) Pre-Senile Psychoses	1	1
16 Psychoneuroses	1	1
17 Manic-Depressive Psychoses	6	6
18 Dementia Praecox (Schizophrenia)	78	78
19 Paranoia and Paranoid Conditions	7	7
21 Psychoses with Mental Deficiency	5	5
23 Without Psychoses	3	3
12 Involitional Psychoses	1	1
05 Alcoholic Psychoses	2	2
10 Psychosis with Convulsive Disorder	1	1
01 General Paresis	2	2
123 Tabo-Paresis	1	1
	112	112

PROVINCIAL AUXILIARY MENTAL HOSPITAL, RAYMOND

**R. R. MacLean, M.D., Cert. in Neuro. and Psychiatry,
F.A.P.A., Cert. M.H.A. (A.P.A.)**

MOVEMENT OF PATIENTS

On January first, 1961, there were 129 patients in residence and two on Leave of Absence to total 131 patients. There were 15 admissions—nine being transfers received from other mental hospitals and six first admissions. Separations totalled 14, being 11 deaths and three discharges as improved. As of December 31, 1961, one patient was on Leave of Absence and 131 were in residence to total 132 patients.

ACCIDENTS AND ELOPEMENTS

There was one elopement. There were eight accidents resulting in fractures.

GENERAL HEALTH

Patients and staff received chest X-rays by the Mobile Unit early in the year and no active disease was found. The annual booster inoculation against Typhoid Fever was also given. Nine major and three minor operations were done for patients during the year. Major operations were, one cholecystectomy, the removal of a large abdominal tumor, one hysterectomy and six Moore's Prostheses. The minor operations were, the surgical removal of bunions, skin grafting and the draining of a large sterile abscess. Several patients were treated for an hepatic infection and several for influenza, neither reaching epidemic proportions. The dentist made his annual visit doing the necessary work on patients' teeth and repairs to dentures. Emergency dental work was done by the local dentist. A clinic of four Medical Doctors from Raymond and Magrath were on call as was a Psychiatrist from Lethbridge.

OCCUPATIONAL THERAPY

Responsibility for specific jobs was given patients wherever possible and other patients were encouraged to work with supervision. Areas of employment were Laundry, Sewing Room, Kitchen, Nurses' Home, Annex, Wards and Dormitories. A few patients helped in the Vegetable garden, weeding and cultivating in the summer and harvesting the crop in the fall. Some helped on the lawns and kept fresh flowers cut for the wards. Other patients enjoyed needlework, knitting, rag-rug making, crocheting, etc. in the Occupational Parlor. As this room was cool and bright many preferred this occupation to being outside. More patients therefore became interested in handwork. Tea was served each afternoon and a radio provided entertainment and subjects for discussion.

LIBRARY

The patients' library was located in the Occupational Parlor which also served as a reading room for some patients. One patient catalogued the books and supervised the borrowing and returning of the books by patients. Several books were donated by friends in the town as

well as issues of popular magazines. One new book was purchased by the hospital each month.

RELIGIOUS SERVICES

United Church and Catholic Services were held at the hospital once monthly. On occasion choirs from district churches attended or gave a choral service. The clergy from the United Church and Catholic Church attended patients before death and presided at funerals when required to do so.

RECREATION AND ENTERTAINMENT

Picture shows were shown on the ward once each week during the winter months and bi-monthly in the spring and fall. The patients never tire of this form of entertainment. From early Spring to late fall the Callow Coach made a weekly call taking patients for rides to nearby towns or on picnics. The Lethbridge Ladies' Auxiliary to the Federation of Civic Employees came for a birthday tea party every other month, entertaining the ladies whose birthday fell in the respective months. They brought a beautifully decorated cake, cookies, candy, birthday card and gift for each. The annual sports day was held and participation in all events was enthusiastic. At Christmas the Raymond Music Club entertained with a concert, cakes, ice cream and oranges. The Union of the United Church Young People brought a concert, Vesper Service and a gift for each patient. Gifts of candy and jewelry were received from the Major Jack Ross Chapter I.O.D.E., Hope Community Club of Warner, Alberta and the Wadena Have Been Club, Taber, Alberta. Gifts of money bought ice cream treats. The Women's Auxiliary to Retired R.C.M.P. of Calgary mailed 26 Christmas parcels to those patients who do not receive parcels from "home".

The wards were suitably decorated for special days (Valentine, Hallowe'en, etc.) and a dance or party was held. Music for dancing was supplied by records. There was a radio on each ward and a Television in the Annex sitting room and in the large dayroom.

STAFF CHANGES

There were no staff changes in either department, Public Health or Public Works.

VISITORS

Periodic visits of inspection were made by the Department of Public Health, Public Works, Fire Department and Fire Inspector, Electrical and Boiler Inspectors. The Director of the Division of Mental Health made several visits and the Provincial Visiting Board made its annual visit.

GARDENS AND GROUNDS

The results of an extremely dry spring, summer and fall could readily be seen in the quality and quantity of garden produce. Irrigation by flooding resulted in the soil cracking and baking hard so that root vegetables developed poorly. The patients enjoyed the leafy and legume vegetables throughout the summer but there was no surplus for canning.

The lawns developed "fairy rings" due to the dry season and some will have to be reseeded. The flower beds made a surprisingly good showing, there were fresh bouquets cut for the wards all season and many visitors to the hospital remarked on the pleasing sight of the lawns and flower beds.

CONCLUSION

The general health of the patients was good throughout the year with no outbreaks of epidemic diseases. The medical attention received from the local doctors was very satisfactory. Comments from patients' relatives expressed satisfaction with their general care and facilities provided.

TABLE 1
MOVEMENT OF PATIENT POPULATION DURING 1961

	M	F	T	M	F	T
In Residence January 1, 1961	*131	*131
ADMISSIONS:						
(a) Voluntary
(b) Certificates	6	6	....	....	....
(c) Warrant
(d) Order
(e) Transfer	9	9	....	15	15
RE-ADMISSIONS	146	146
SEPARATIONS:						
(a) As recovered
(b) As Improved	3	3	....	....	....
(c) As unimproved
(d) Transferred to other hospitals
(e) Eloped
(f) Deported
(g) As with psychosis
(h) Deaths	11	11	....	14	14
In Residence December 31, 1961	132	132

*This figure includes two patients who were on Leave-of-Absence.

**This figure includes one patient who was on Leave-of-Absence.

TABLE 2
ORIGINAL DIAGNOSIS ON ADMISSION TO MENTAL HOSPITAL

	Male	Female	Total
300 Schizophrenic Disorders	90	90
301 Manic-Depressive Reactions	9	9
303 Paranoia and Paranoid States	9	9
304 Senile Psychosis	5	5
305 Presenile Psychosis	1	1
306 Psychosis with Cerebral Arteriosclerosis	5	5
307 Alcoholic Psychosis—Chronic Alcoholic Hallucinations	1	1
308 Psychosis with other demonstrable Etiology (Epilepsy)	3	3
309.1 Psychosis with Psychopathic Personality	2	2
309.2 Psychosis with Mental Deficiency	2	2
325 Not Psychotic—Mental Deficiency	3	3
025 General Paresis of Insane	2	2
TOTALS	132	132

Table 3
CAUSES OF DEATH DURING 1961
ABRIDGED INTERNATIONAL CLASSIFICATION

CLASSIFICATION	Male	Female	Total
22 Vascular lesions affecting Central Nervous System, Cerebro-Vascular Accident	2	2
26 Arteriosclerotic and Degenerative Heart Disease	3	3
27 Other Diseases of heart	1	1
28 Hypertension with heart disease	1	1
31 Pneumonia—Bronchopneumonia	4	4
TOTALS	11	11

TABLE 4
DEATHS BY ORIGINAL DIAGNOSIS

300 Schizophrenic Disorders .....	....	2	2
303 Paranoia and Paranoid States .....	....	2	2
304 Senile Psychosis .....	....	1	1
306 Psychosis with Cerebro Arteriosclerosis .....	....	6	6
TOTALS .....	....	11	11

ROSEHAVEN, CAMROSE

**R. R. MacLean, M.D., Cert. in Neurol. and Psychiatry,
F.A.P.A., Cert. M.H.A. (A.P.A.)**

MOVEMENT OF RESIDENTS

On January 1, 1961, the resident population at Rosehaven numbered 505, of which 286 were men and 219 were women. The total number in residence on December 31, 1961, was 502; 281 men and 221 women.

There were 153 residents admitted to Rosehaven during 1961. Of this number, 58 were received from the Provincial Mental Hospital at Ponoka, 63 from the Provincial Mental Institute at Edmonton, one was readmitted and 31 returned from leave of absence.

Separations from Rosehaven during 1961 numbered 156; 117 were attributable to death, one was transferred to another mental institution, five were discharged, one eloped and 32 went on leave of absence.

Admissions throughout the year in the form of transfers from other mental hospitals in Alberta filled beds made available by death or discharge. The average daily population was 504.8.

Deaths were due to degenerative causes.

ACCIDENTS AND ELOPEMENTS

During the year a number of residents received injuries either from accidental falls or as a result of interference from other residents. Some of these resulted in contusions and lacerations of a minor nature and required only first aid treatment. There were 60 accidents which required medical care or X-ray investigation. These included 28 fractures, one dislocation, nine X-ray investigations, 13 severe contusions and nine suturings. Two residents left the grounds without permission; one was returned with police assistance and the other discharged.

GENERAL HEALTH

The general health of the residents was considered good in view of the age of the individual. An ever increasing mental and physical decline in the majority of the residents necessitated a greatly increased amount of nursing care.

An average of 38.6 residents required bed care each day. During the year, 40 residents were admitted to St. Mary's Hospital for medical, surgical or orthopedic attention.

Out patient work done at St. Mary's Hospital for Rosehaven residents consisted of 100 laboratory tests, 62 X-ray pictures and 15 out patient procedures. Thirty-four specimens were sent to the Provincial Laboratory. Chest X-rays were taken of all residents by the Mobile X-ray Unit.

Medical care was supplied by the Smith Clinic of Camrose.

Two visits were made by the dentist from the Provincial Mental Institute, Edmonton, and necessary dental care was given. Emergency dental work was done by a local dentist.

OCCUPATIONAL THERAPY

Occupational therapy classes were operated throughout the year. Groups of men and women from each ward attended with an average of 116 residents at classes each week. Articles made were readily sold, being purchased by the residents, staff members or friends. An average of 13 residents worked in institutional services, the laundry and kitchen. Work parties for grounds and garden were discontinued due to the increased debility of the residents. The average number employed on wards in light housekeeping tasks was 64.

RELIGIOUS SERVICES

Weekly Protestant Church services were held at Rosehaven and arranged by the local Ministerial Association. The services of a Roman Catholic priest were available as needed.

RECREATION

Residents were taken out as a lawn group when weather permitted. An average of 122 residents had grounds privileges and were out almost daily. A movie film was shown once every two weeks from September to May with an average attendance of 84 residents. Parties were arranged each month as well as special entertainment at Christmas, Easter and Thanksgiving holidays. Several picnic outings were arranged in the summer months. Cards, games, television and radios were available to residents. Several local organizations and church groups sponsored car rides, concerts and teas for the residents. Ex-servicemen were visited regularly by members of the Ladies' Auxiliary to the Canadian Legion who arranged outings for them. An average interest in the residents was shown by outside groups.

BUILDINGS

The buildings have been well maintained and repairs were done promptly.

GARDEN AND GROUNDS

The garden and grounds were well maintained during the year.

STAFF

The general health of the staff was good. Vacancies arising from resignations were readily filled. Staff members received T.A.B. vaccine and had chest X-rays by the Mobile Chest X-ray Unit.

VISITORS

Regular visits were made to Rosehaven by the Director of Mental Health.

The annual visit was made by the Visiting Board.

The Director for the Federal Mental Health Services visited at Rosehaven.

TABLE 1
MOVEMENT OF POPULATION DURING 1961

	M	F	T	M	F	T
In Residence December 31, 1960 .....	.....	.....	.....	286	219	505
ADMISSIONS:						
From P.M.H., Ponoka	32	26	58			
From P.M.I., Edmonton	36	27	63			
Readmitted	1	.....	1			
Returned from L.O.A.	5	26	31			
	74	79	153	74	79	153
				360	298	658
SEPARATIONS:						
Deaths	69	48	117			
Discharge to P.M.I., Edmonton	1	.....	1			
Discharge following L.O.A.	2	3	5			
Eloped	1	.....	1			
On L.O.A.	6	26	32			
	79	77	156	79	77	156
In Residence December 31, 1961				281	221	502

TABLE 2
ORIGINAL DIAGNOSIS ON ADMISSION TO MENTAL HOSPITAL

300 Schizophrenic Disorders	105
301 Manic Depressive Reaction	23
302 Involuntional Psychosis	3
303 Paranoia and Paranoid States	33
304 Senile Psychosis	175
306 Psychosis with Arteriosclerosis	113
307 Alcoholic Psychosis	2
308 Psychosis of Demonstrable Etiology	7
309 Other and Unspecified Psychosis	18
311 Hysterical Reaction	1
320 Pathological Personality	1
322 Alcoholism	5
323 Other Drug Addiction	1
325 Mental Deficiency	5
024 Tabes Dorsalis	3
025 General Paralysis of Insane	4
026 Other Syphilis of Central Nervous System	1
930 Not Psychotic	2
TOTAL	502

TABLE 3
CAUSES OF DEATH DURING 1961
ABRIDGED INTERNATIONAL CLASSIFICATION

DISEASE	Male	Female	Total
18. Neoplasms, Malignant	3	1	4
22. Vascular Disease Central Nervous System	9	6	15
26. Arteriosclerotic and Degenerative Heart Disease	32	22	54
31. Pneumonia	24	19	43
37. Cirrhosis of Liver	1	.....	1
TOTALS	69	48	117

TABLE 4
CLASSIFICATION OF DEATHS ACCORDING TO ORIGINAL PSYCHIATRIC
DIAGNOSIS 1961

DISEASE	Male	Female	Total
300 Schizophrenic Disorders	1	3	4
301 Manic Depressive Reaction	1	2	3
303 Paranoia and Paranoid States	8	2	10
304 Senile Psychosis	37	27	64
306 Psychosis with Arteriosclerosis	16	13	29
308 Psychosis with Demonstrable Etiology	2	1	3
309 Undiagnosed	1	.....	1
325 Mental Deficiency	1	.....	1
025 General Paralysis of Insane	1	.....	1
026 Psychosis with Other Syphilis of Central Nervous System..	1	.....	1
TOTALS	69	48	117

INSTITUTIONS FOR MENTAL DEFECTIVES

THE PROVINCIAL TRAINING SCHOOL, RED DEER, DEERHOME, RED DEER

The Provincial Training School's patient population in residence remained at approximately 740 throughout the year. Admissions from the community numbered 121—(70 boys, 51 girls). Forty-one trainees (27 boys, 14 girls) were discharged.

One hundred and twelve patients (55 males, 57 females), were transferred to Deerhome. There were seven deaths (five male, two female). The intensive training programs continued with good results. Renovations to the infirmary, preparatory to receiving children of pre-school age, were carried out.

Deerhome's patient population increased from 811 to 830. The picture was obscured in that 157 women patients who were cared for temporarily were transferred back to the Provincial Mental Hospital, Ponoka. A new unit for male patients was opened during the year. Eleven patients were formally discharged. Nine deaths occurred.

The new male staff residence was opened. Other new buildings included a greenhouse and a machinery storage shed. Construction was commenced on the new recreation and occupational building.

PROVINCIAL TRAINING SCHOOL
RED DEER

**L. J. le Vann, L.R.C.P. Edin., L.R.C.S. Edin.,
L.R.F.P.S. Glas., Medical Superintendent**

IN RESIDENCE, ADMISSIONS, DISCHARGES, DEATHS

The number of trainees in residence on January 1st, 1961, was 756, of whom 424 were males and 332 were females. On December 31st, 1961, the number of trainees in residence was 718, of whom 408 were males and 310 were females. The details are as set out in Table One.

124 children were admitted to the Training School, of whom 94 were first admissions, 27 re-admissions largely being admitted for brief periods in order to find re-employment, and three children were transferred from Linden House.

During the year 41 trainees were discharged for work in the community, and 112 patients who required extended care were transferred to Deerhome. One patient was transferred from the Training School to Linden House and, one patient suffering from Juvenile Schizophrenia was transferred to the Provincial Mental Hospital, Ponoka.

There were seven deaths for the year, five male and two female.

There were no dormitory additions and the total number of beds remained constant.

APPLICATIONS FOR ADMISSION

129 applications for admission were received during the year. Of these, 23 were admitted from the urgent waiting list.

Admissions commenced in the new Pediatric Unit which was opened in December for children who in addition to mental deficiency, had gross physical abnormality.

EUGENICS BOARD VISITS, STERILIZATIONS, ET CETERA

The Eugenics Board visited on five different occasions and had presented to it 46 trainees, 26 males and 20 females. 45 of those presented were recommended for Eugenics surgery; of these 26 were males and 19 females. During the year 61 Eugenics operations were carried out, 50 from the Provincial Training School and 11 patients from Deerhome.

STAFF CHANGES AND ACTIVITIES

Nursing staff classes maintained their high level of attendance for students in all three training years. A graduating class of 17 received their diplomas in Mental Deficiency Nursing. The graduation was attended by Dr. R. N. Thompson, who gave the address to the graduates, as well as the Honorable Minister of Health, Dr. J. Donovan Ross, the Honorable Mr. William Ure and the Director of the Division of Mental Health, Dr. Randall R. MacLean, all of whom gave addresses to the graduates. It was possible to be highly selective with

respect to choosing nursing staff applying for work at the School and the high selective standard of candidates desiring training was maintained.

Complete Medical Staff, Psychological Staff and Social Workers were not obtainable and it was not possible to fill all the established positions for these groups.

HEALTH OF TRAINEES AND STAFF

This maintained its previous high standard. Of the epidemic diseases, two cases of Infectious Hepatitis occurred: one trainee and one staff member. Immediate enforcement of immunization procedures and isolation techniques were probably instrumental in keeping this infection controlled.

Immunization continued both with staff and trainees for Poliomyelitis and the Enteric Fevers. Routine immunization was carried out with the younger population for Diphtheria, Whooping Cough and Tetanus. A complete X-ray survey was carried out by the Alberta Tuberculosis Association and the School was again found free of active tuberculosis.

TRAINING PROGRAM FOR NURSES AND ATTENDANTS

153 Nursing students attended classes, 83 first year, 50 second year and 20 third year. The standards expected of the students remained high and this policy produced far greater interest in classes than during previous years, when less attention was given to detail.

TRAINING PROGRAM FOR TRAINEES

Sense Training—95 children attended Sense Training during the year, receiving instruction at the pre-kindergarten and kindergarten level. Children were taught basic habits of social acceptability in order to prepare them whenever possible for promotion to the elementary school curriculum. The children in the Sense Training level also took part in a Christmas Concert which was attended by parents, staff and citizens of the City of Red Deer.

Elementary School—132 pupils attended elementary school this year. As much as possible, their curriculum included standards in elementary classes required by the Department of Education of Alberta. Means of gauging school and pupil progress were carried out via Stanford Achievement Tests which were given to the five upper classes at the end of the spring term. On the basis of this, 37 of the senior children were promoted to higher scholastic levels and an additional 30 pupils in the lower elementary level were also able to be advanced.

The contests for trainees drawing the best original cover for the Newsletter were maintained and the pupils colored the mimeographed newsletter for the members of the Parent School Organization, as well as a selected list of reciprocal correspondents.

Entries were entered in the Section for Special Classes in the Edmonton Exhibition and 33 prizes were won, among which were included 11 first prizes.

331 visitors visited both the Sense Training School and Elementary School house, these were largely nurses and nursing students, medical students, teachers and other persons associated with the Field of Mental Deficiency. In addition, many Governmental officials also made visits.

RECREATIONAL ACTIVITIES

This carried on in a highly organized manner. Total trainee attendance for the year averaged 49,606. Broken down this amounted to:

- 1) Trainee monthly attendances—4,134
- 2) Average daily trainee attendances—188

Supervision was maintained at a high level and there was only one minor accident for every 3,543 trainees attending, with a total of 14 minor mishaps for the year.

The program incorporated as many physical activities as possible, including such programs as swimming, hockey, broom ball, calisthenics, volley ball, badminton, baseball and Swedish gymnastics. Track and field activities were also encouraged and several of the children showed remarkable co-ordinative ability in this field. There were 814 children day attendances at the swimming classes at the Red Deer Pool, many of the children receiving their certificates in swimming proficiency. Amongst the other recreational activities were included; hikes, picnics, treasure hunts, weiner roasts and bicycle rodeos.

The Christmas Concert involved the cooperative efforts of the Sense Training and Elementary teachers, as well as the Recreational classes. This concert was attended in excess of 1,000 persons.

AGRICULTURAL ACTIVITIES

Agricultural instruction comprised two main phases. The summer phase, where a good deal of practical field experience was participated in by the male trainees. This included preparation of animals for Fair competition, as well as caring for crops and crop rotational systems. The mixed farm procedures carried out at this School contributed greatly to the knowledge and useful habit patterns that were taught and established in the trainees. During the winter months, following the harvest, a variety of other subjects were dealt with on a more theoretical basis for those trainees capable of absorbing this. The curriculum included such items as knowledge of soils, cereal grains, grasses and legumes, livestock breeds, farm machinery, farm safety, greenhouse procedures, weeds and weed control. Approximately 30 of the senior boys were able to attend these classes.

At the Annual Fair in Red Deer, 11 animals were entered in the Dairy Cattle Competition. One calf raised by one of the pupils won first prize and ten other prizes were won by the School's cattle. The school competed against top dairy herds from the whole of Alberta.

OCCUPATIONAL THERAPY

152 children attended Occupational Therapy classes daily for five days each week; 73 each morning and 79 each afternoon.

Weaving continued to be a challenging and stimulating part of the program providing opportunity for the "grading" of concentration required and complexity involved, for each child as necessary. Many woven projects were completed including tablecloths, hammocks, car blankets, baby shawls, rugs, stoles, scarves and place mats. Basketry also proved to be of particular value in the program and popular with the children. Amongst other projects, numerous cat baskets were made

during the year. Other activities employed in the program were rug-making of both hooked and stitched types on canvas and burlap, embroidery, crochet work, Swedish weaving, punchwork and stuffed toy making.

32 items of the children's work were entered in competition at the Red Deer Fair. Of these entries, seven won first prizes, eight second prizes and five third prizes.

Once again, selected girls attended cooking classes once each week to learn the fundamentals of cooking meals and baking. Twice in the year, these students held Bake Sales of many kinds of cookies and cakes and once they gave a Tea to which they invited their C.G.I.T. colleagues from the City of Red Deer.

In addition, 11 girls attended dressmaking classes twice each week during which they received instruction in hand and machine sewing and the use of paper patterns in dressmaking. Their work for the year included numerous items of clothing for themselves, as well as other general items with which to learn and practice varied sewing techniques.

SHOEMAKING

Shoemaking repairs were carried out, as in previous years, by the School Shoemaker and trainees who work with him. It was possible to maintain the high level of shoe "usability", thereby eliminating the necessity of keeping large shoe stocks available.

VOCATIONAL TRAINING DEPARTMENT

Vocational training classes, especially with regard to wood lathe work, painting and spraying procedures were carried on with the usual impetus. 48 boys attended daily woodworking classes. These classes were useful in developing coordination and manual dexterity. Amongst the items produced were many pieces of furniture of solid hardwoods, such as, mahogany, birch, walnut and maple. These included many major projects such as Children's Playhouse on cement foundation, solid mahogany desks, bedroom suites, lamps and lawn furniture. 12 woodwork items were entered at the Red Deer Fair, winning respectively, one first prize, three second prizes and three third prizes.

EXTRA MURAL ACTIVITIES

Encouragement was maintained for trainees to visit with their families whenever possible. This resulted in 147 trainees going home for the Easter holidays, 301 for the summer holidays and 229 went home for the Christmas holidays.

The Randall R. MacLean Cottages at Gull Lake maintained their high quota of 228 children who spent some part of the summer holiday there. This camp, the first of its kind in Alberta, was established in 1957, setting an example, since followed by many Institutions proving the feasibility of people with psychotic and mental defective disorders being able to cope in a pleasant lakeside situation showing adequate ability to prepare their own food, look after their own household requirements, as well as maintaining a high degree of personal safety.

Three scientific papers were published during the year entitled:

1. "The Use of Neuroleptics in Mental Deficiency", published by "Extrapyramidal System and Neuroleptics", November, 1961, University of Montreal.
2. "Thioridazine; A Psycho-Sedative, Virtually Free of Side Effects", The Alberta Medical Bulletin, Vol. 26, No. 4, November 1961.
3. "Chlordiazepoxide, A Tranquillizer with Anti-convulsant Properties", was accepted for publication by the Canadian Medical Association Journal.

Work still continued on "A Study of Fertility in Male Mongols".

As in many previous years, the School was again the meeting place for Teachers of Retarded Children throughout Alberta and a two-day convention was called at the School for them.

The Parent School Organization provided the necessary funds for an additional wading pool at the School Camp and also continued the maintenance of the T.V. sets, as well as being generally responsive towards any school needs with relation to trainee comforts.

The Annual Auction was held with the Vocational and Occupational Therapy items available for sale and this year was equally successful as it has been in previous years.

SPECIAL TALKS AND PUBLIC RELATIONS

Senior staff participated in eight talks, relating to Mental Deficiency, by addressing, Service Clubs, Home and School Associations, Nurses' Alumni Groups, Women's Organizations, etcetera.

NEW CONSTRUCTION

There were no major items of construction this year, although some planning took place in the Department of Public Works for a new Service Building, as well as an addition to the present Elementary School House.

KITCHEN AND DINING ROOM

The Dietary department showed improvement as a result of the appointment of a Dietitian. This enabled the Kitchen to reassign duties and responsibilities for a more efficient operation of this department.

LAUNDRY AND LINEN REPAIR

The Laundry area showed some handicap due to insufficient equipment and space. Also facilities for the processing of personal clothing requiring hand washing and ironing were not available thus placing additional burden on the villa nursing staff.

Some planning took place on a new Service Building, designed to overcome these difficulties.

STORES

No difficulties were experienced in this Department and a moderately good inventory was maintained for most items.

FARM

Most crops yielded well this year, although dry conditions during spring and early summer caused some uneven germination of grain crops and first-cut hay was a little short. A second-cut hay was above average in yield, due to late summer rains. A fairly large amount of feed was purchased at higher than usual prices due to a general feed shortage throughout the Prairie Provinces. Milk production was down from last year due to aging of stock and lack of replacement cattle. Pork production remained fairly constant. Egg production reached a new high, in that it averaged 251 eggs per bird per year. The feed conversion ratio per eggs produced was better than the usual average for 425 DeKalb 131's.

All farm buildings were uniformly painted red with white trim and all rail and plank fences painted white during the year.

GARDEN AND GROUNDS

All vegetable crops turned out well except parsnips, which had to be ploughed down due to poor germination. The potato crop was exceptionally good. The installation of steam heating in the greenhouse addition built by the O.T. carpentry classes was a big help in farming operations for the year.

GARBAGE DISPOSAL

There were indications that the operation of the incinerator and the problem of garbage collection and disposal in general could be done more efficiently, especially during spring, summer and fall months by the Department of Public Works than by the Farm and Garden Staff.

MAINTENANCE

The Department of Highways was most helpful in supplying the material for road sanding and their help and cooperation was greatly appreciated.

The following are some of the major jobs completed by the Maintenance Department during the year:

Completion of rebuilding and renovation of all diet kitchen cupboards and double compartment sink installations.

Installation of new floor tile throughout main floors of Administration Building and complete renovation of interior of old record storage vault in Main Building basement.

Installation of new hardwood floor in Recreation Building.

Completion of new sleeping quarters inside the Fire Hall.

Refinishing of all floors in Medical Officer's older residence.

Regular daily maintenance including repairs to furniture (over 100 chairs re-upholstered) windows, fences, cupboards, sidewalks, etcetera.

Regular painting program included the complete interiors of Ash, Birch, Fir and Maple Villas and parts of most of the other buildings at the School.

Refinishing of over 300 chairs and benches and over 100 beds.
Regular maintenance painting where required.

PLUMBING AND STEAM FITTING

General replacement of all old radiators with convector type heating units continued.

Continuation of the program of installing individual thermostatic controls on all steam radiators.

Installation of additional heating in Greenhouse.

Routine maintenance work as required, including installation of all new and replacement equipment as it arrived from time to time.

ELECTRICAL

Installation of new control panel in Power House.

Replacement of high voltage overhead wiring between the Provincial Training School and the Gaetz Farm.

Replacement of blower coil units in Kitchen refrigerator.

Rerouted various fire alarm and telephone circuits.

Supplied additional new circuits and outlets in various buildings as required.

Regular maintenance including upkeep of all lighting fixtures, appliances, radios, motors and telephone systems.

VISITORS

Amongst the distinguished visitors who visited this year were included the Honourable Premier, Mr. E. C. Manning, the Honorable Dr. J. Donovan Ross, Minister of Health, The Honorable Mr. William Ure, Dr. R. N. Thompson and Dr. Randall R. MacLean, Director of the Division of Mental Health.

During the year visits were made and rounds completed by nursing students of several hospitals in the Province of Alberta, Public Health Nurses and the senior year medical students from the University of Alberta.

FIRE BRIGADE

During the year inspections were carried out by the City Inspector and Fire Commission staff, in addition to monthly inspections by the Training School Fire Brigade Staff.

The fire equipment was loaned to the Fire Commissioners Department for the Training School at Vermilion and a Civil Defence Pumper was placed at the School's disposal while the school's equipment was away from June 12th-18th inclusive.

APPRECIATION

The Medical Superintendent would again like to take this opportunity of extending his appreciation and thanks to the staff members of all Departments of the Training School who made a fine contribution to the well-being of the children and the School in general. The continued interest of the Minister of Health, The Honorable Dr. J. Donovan Ross, in maintaining the high standards which the School has achieved over the years is much appreciated, both by the administration and parents of the children at the School. The Director of the Mental Health Division, Dr. Randall R. MacLean showed his usual interest and concern with respect to any problems that appeared. His advice and help contributed greatly towards facilitating the even function of operation.

TABLE 1
MOVEMENT OF FEEBLEMINDED POPULATION

	M	F	T	M	F	T
Defectives on Books of Institution as at January, 1961				424	332	756
ADMISSIONS:						
1. First Admissions—voluntary	53	41	94			
2. Readmissions	17	10	27			
3. Transfers—3 from Linden House	2	1	3			
Total number of admissions	72	52	124	72	52	124
Total number of defectives on books during 1961				496	384	880
SEPARATIONS:						
1. Discharges	27	14	41			
2. Transfer: 55 M to Deerhome						
57 F to Deerhome						
1 F to Linden House						
1 M to P.M.H.	56	58	114			
3. Deaths	5	2	7			
Total number of separations	88	74	162	88	74	162
Defectives on books of the Institution at 31st December, 1961				408	310	718

TABLE 2
AGE OF RESIDENT POPULATION CLASSIFIED WITH REFERENCE TO MENTAL STATUS

AGE GROUP	IDIOT			IMBECILE			MORON			BORDERLINE			PEDIATRIC			TOTALS		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	0-4 years	12	2	2	5	28	5	8	3	11	1	1	1	1	1	3	8	2	10
5-9 years	14	15	27	39	74	67	28	27	67	1	1	1	1	2	28	59	47	106
10-14 years	9	11	25	76	150	150	85	39	88	5	1	1	1	6	130	130	114	264
15-19 years	11	10	19	61	24	29	51	37	88	1	1	1	1	1	126	126	72	198
20-24 years	11	13	24	18	11	29	9	10	19	1	1	1	1	1	39	39	34	73
25-29 years	11	3	14	10	6	16	4	2	6	1	1	1	1	1	25	25	11	36
30-34 years	2	2	2	1	4	5	1	1	1	1	1	1	1	1	5	5	4	9
35-39 years	4	4	4	5	3	6	2	2	2	2	2	2	2	2	9	9	7	16
40-44 years	1	1	4	2	3	5	1	1	1	1	1	1	1	1	2	2	2	8
45-49 years	1	2	2	1	5	7	1	1	1	1	1	1	1	1	2	2	2	10
50-54 years	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	2	2	4
55-59 years	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	9
60-64 years	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
TOTALS	64	66	130	221	157	378	112	84	196	8	3	11	3	3	408	310	718	

TABLE 3
MENTAL STATUS OF FIRST ADMISSIONS, READMISSIONS AND TRANSFERS

Mental Status	First Admissions			Readmissions			Transfers			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T
Idiot	4	7	11	1	...	1	...	...	...	5	7	12
Imbecile	36	25	61	2	2	4	1	...	1	39	27	66
Moron	10	7	17	12	8	20	1	1	2	23	16	39
Borderline .....	...	1	1	1	...	1	...	...	...	1	1	2
Pediatric	3	1	4	1	...	1	...	...	...	4	1	5
Totals	53	41	94	17	10	27	2	1	3	72	52	124

TABLE 4
AGE GROUP OF FIRST ADMISSIONS, READMISSIONS AND TRANSFERS

Age Group	First Admissions			Readmissions			Transfers			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T
0-4 years	9	2	11	1	...	1	...	...	...	10	2	12
5-9 years	23	15	38	...	1	1	...	...	...	23	16	39
10-14 years	16	18	34	1	2	3	2	1	3	19	21	40
15-19 years	4	6	10	2	...	2	...	...	...	6	6	12
20-24 years .....	...	...	...	7	4	11	...	...	...	7	4	11
25-29 years	1	...	1	5	1	6	...	...	...	6	1	7
30-34 years .....	...	...	...	1	...	1	...	...	...	1	...	1
35-39 years .....	...	...	...	...	2	2	...	...	...	...	2	2
Totals	53	41	94	17	10	27	2	1	3	72	52	124

TABLE 5
CAUSES OF DEATH DURING 1961
ABRIDGED INTERNATIONAL CLASSIFICATION

CLASSIFICATION	Male	Female	Total
22. Vascular Lesions Affecting Central Nervous System .....	...	1	1
27. Other Diseases of Heart	4	1	5
31. Pneumonia	1	...	1
Totals	5	2	7

TABLE 6
DEATHS BY INTELLIGENCE LEVELS

CLASSIFICATION	Male	Female	Total
Idiot	2	1	3
Imbecile	3	...	3
Moron .....	...	...	...
Pediatric .....	...	1	1
Totals	5	2	7

TABLE 7
DENTAL CARE

Examinations	1,011
Extractions, Local	141
Extractions, General	63
Ag Fillings	237
Porcelain Fillings	32
X-rays	33
Sealing	13
Cleaning	7
Partial Plates	6
Dentures	2
Spacemaker	1
Stainless Steel Cap	2

DEERHOME, RED DEER

**R. R. MacLean, M.D., Cert. Neurol. and Psych.,
F.A.P.A., Cert. M.H.A. (A.P.A.)**

MOVEMENT OF RESIDENTS

The number of patients in residence on 1st January, 1961 was 811, of whom 321 were men and 490 were women. On 31st December, 1961, the number of patients in residence was 830, of whom 388 were men and 442 were women. The details are as set out in Table 1.

ACCIDENTS AND ELOPEMENTS

There were 17 accidents resulting in fractures. There were 16 elopements.

GENERAL HEALTH

The general health of the patients was good. Medical care was provided by Parsons' Clinic, Red Deer, on the basis of a physician visiting regularly two mornings per week and responding to all emergency calls as the need arose. There was an average of forty-seven patients per week prescribed for under this scheme. In the interim, supervision was carried out by Registered Nurses.

Surgery was necessary for thirty-five patients (excluding eugenics cases). Of these—24 cases were admitted to Red Deer Municipal Hospital, six cases were admitted to the Provincial Training School, one case was admitted to the Provincial Mental Hospital and four cases were attended to at the Parsons' Clinic. Out of the above cases, sixteen patients received major surgery.

Eleven patients were presented to the Eugenics Board and successful surgery was carried out on twelve patients, eleven operations being performed at the Provincial Training School and one at the University Hospital, Edmonton. At the end of the year, ten patients were awaiting surgery.

A member of the Provincial Mental Hospital, Ponoka, medical staff visited regularly and interviewed and prescribed treatment for the disturbed patients.

The Director visited the institution frequently, made rounds and attended to many administrative matters.

The Mobile X-Ray Unit and the Portable X-Ray Unit X-rayed 1,418 cases (including patients and staff). From these it was discovered that one patient required active treatment, necessitating his transfer to the Provincial Mental Institute.

There was a total of 140 diagnostic X-rays taken upon the doctor's recommendation, at the Provincial Training School or Parsons' Clinic.

The Laboratory Department was in use since April and since that time an average of 39 blood tests per month and 25 urinalyses per month were carried out.

Dental Clinics were held regularly; 516 patients were examined, 40 fillings were done and several treatments carried out. There were 323 extractions with local anaesthetics, and twelve patients had general anaesthetics for multiple extractions.

The local optometrist examined 58 patients and 26 were fitted with new glasses. There were 107 pairs of glasses repaired.

Several patients were referred to the local ophthalmologist for consultation as recommended by the attending physician.

There were no problems of epidemics during the year.

OCCUPATIONAL THERAPY

During the year 1961, the number of patients receiving occupational therapy was approximately 175. These were supervised by three female and two male staff members.

The female patients occupied their time at embroidery, knitting, weaving, leather and copper work, basketry, rug hooking and other crafts, and produced many finished articles.

The male patients produced some very fine articles in woodwork, such as lawn furniture, bed-side tables, sewing cabinets, etc. Leather-craft and rug-hooking gained more popularity this year. In all of the male patients' occupational therapy projects, their quality of workmanship showed considerable improvement over last year's products.

Two major contributions were made by the combined male and female Occupational Therapy Departments during the year, one of which was the aid the patients gave in supplying most of the 20,000 paper flowers for the prize winning Deerhome float in the Red Deer Parade. The second was the patients' contribution of their handiwork, including the popular hand-woven Alberta tartan at the pre-Christmas Sale and Tea in November which netted \$2,100.00 for the Patients' General Comforts Fund.

Many of the patients were capable of gainful employment off the premises of Deerhome, and many were employed on the premises, all under supervision.

There were twenty-six male patients and fifteen female patients capable of working for private citizens in the vicinity; out of these there was an average of eight male patients and five female patients who went out to work each working day of the year.

Approximately 259 male and female patients assisted with the routine work in the various departments of Deerhome, such as laundry, kitchen, stores, male and female staff residences, and at various seasonal occupations.

RELIGIOUS SERVICES

The needs of the Protestant patients were attended to by the Red Deer Ministerial Association. Each Minister took turns and held Sunday services throughout the year, with the exception of the months of July and August.

The Roman Catholic clergy visited the Roman Catholic and Greek Catholic patients at regular intervals, and Mass was said once a month.

RECREATION

The following programme was followed throughout the year on Deerhome premises—

(1) Walking parties (weather permitting) were carried out daily with as many patients participating as were physically fit to do so.

(2) Weekly matinee dances, bingo games and film showings were very popular all year. Four evening dances with special decorations, costumes, live music and talented entertainers, were enjoyed.

(3) Television sets, radios, record players, piano playing and card games, etc. were enjoyed on the wards.

(4) Many indoor table games were enjoyed with staff participation and supervision.

(5) Physical fitness classes were carried out routinely, with ingenious methods used to activate the wheelchair patients. Dancing instructions were also popular.

SEASONAL ACTIVITIES—

Winter: The completion of the skating rink and change house added much to the winter sports activities.

Hockey Leagues were enjoyed with emphasis on team play. Skating instructions benefited many patients.

A toboggan hill was established on Deerhome property and the outcome looked promising.

Summer: The second annual Deerhome circus in June was attended by approximately 800 patients and 200 staff and it was an outstanding success. Entertainment was provided for all, including the wheelchair patients. Many animals were on display to give this project a "circus" appeal, and many rides, booths and noise makers supplied a "carnival" touch.

The patients enjoyed the Red Deer Parade and Fair. More than 250 patients saw the Parade and an additional 200 patients attended the Fair.

The Red Deer Swimming Pool was made available for Deerhome patients twice weekly for morning swimming periods, when thirty patients enjoyed the opportunity.

Organized games such as fast ball, soccer, volley ball, basket ball, horseshoes, were enjoyed; picnics and weiner roasts were frequent diversions.

The track field competition, in which 450 patients participated, was another outstanding summer activity.

Christmas was highlighted with many activities, such as concerts with patient talent, concerts with outside talent including choir visits, sing-songs, etc. A local service club sponsored a project whereby patients were transported to the downtown areas to view the colorful Christmas lights of the city. All wards had decorated Christmas trees and Santa Claus visited every ward on Christmas morning; the numerous gifts and treats culminated an eventful holiday season.

The Recreation staff included three males and two females. The co-operation of service clubs and many public-minded citizens is acknowledged in the functioning of this department.

BUILDINGS

Dormitory No. 5 was opened in 1961.

The Male Staff Residence was occupied and the greenhouse and machinery storage shed were put into operation.

Construction was commenced on the Recreation and Occupational Therapy Building which will be available for use in 1962. A big improvement in recreational facilities was made during the year due to the construction of a change house and a new skating rink.

GARDEN AND GROUNDS

Further landscaping was done around completed buildings and preliminary levelling was done in other areas.

Garden produce was again successfully grown and allowed for full utilization of patient assistance. There were forty-three acres under cultivation, yielding 370 tons of various vegetables.

With the added facilities which the greenhouse offered, nearly 16,000 bedding-out plants were placed to enhance the beauty of the grounds.

STAFF

In general the health of the staff was good. Some home visits were made in cases where there seemed to be an excessive amount of incidental illness.

The routine administration of T.A.B.T. vaccine and poliomyelitis vaccine was carried out.

There was no difficulty in filling vacancies or in obtaining staff for the wards.

Approximately 36 more people were employed to compensate for the increased patient load.

VISITORS

The Minister of Health visited Deerhome during the year.

The Director of the Division of Mental Health visited regularly.

The annual visit was made by the Provincial Hospital Visiting Board.

There was a special visit by the Chief of the Mental Health Division, Department of National Health and Welfare, Ottawa.

Members of the International Railway Brotherhoods visited during the early part of the year.

The Alberta Psychiatric Association Convention was held at Deerhome in October.

TABLE 1
MOVEMENT OF POPULATION DURING 1961

	M.	F.	T.	M.	F.	T.
In residence 1st January, 1961	321	490	811	321	490	811
ADMISSIONS:						
From P.M.H., Ponoka .....	....	4	4			
From P.T.S., Red Deer	55	57	112			
From P.M.I., Edmonton	3	42	45			
From Raymond .....	....	....	....
Direct	19	18	37			
Re-admitted	1	2	3	78	123	201
RETURNED FROM:						
L.O.A.	326	199	525			
P.M.H. ....	....	2	2			
P.T.S.	10	5	15			
P.M.I. ....	....	1	1			
Raymond .....	....	....	....
R.D.M.H.	14	11	25			
Elopement	4	5	9	354	223	577
	753	836	1589	753	836	1589
SEPARATIONS:						
Formal discharges	2	9	11			
On L.O.A.	328	198	526			
Deaths	4	5	9			
To P.M.H. ....	....	157	157			
To R.D.M.H.	14	11	25			
To P.T.S.	10	5	15			
To P.M.I.	2	2	4			
To Raymond .....	....	1	1			
Eloperments	5	6	11			
	365	394	759	365	394	759
Total in residence 31st December, 1961				388	442	830

TABLE 2
ORIGINAL DIAGNOSIS ON ADMISSION TO MENTAL HOSPITAL

325.0	Idiocy	135
325.1	Imbecility	349
325.2	Moron	155
325.3	Borderline intelligence	9
325.4	Mongolism	52
325.5	Mental deficiency, other and unspecified types	16
326.4	Mental deficiency with Psychoneurosis	1
309.2	Mental deficiency with Psychosis:	
	Idiot	2
	Imbecile	31
	Moron	38
	Borderline	2
	Other	35
	—	
300	Schizophrenia	108
301	Manic Depressive	39
308.1	Psychosis with Convulsant Disorder	3
308.5	Psychosis with Nervous Disorder	8
308.7	Traumatic Psychosis—epilepsy	2
353	Epilepsy	1
020.1	Juvenile Neurosyphilis	7
025	General Paralysis of Insane (Syphilitic Meningoencephalitis)	2
	Total	*889

*This total includes 59 patients who were on leave-of-absence from Deerhome on 31st December, 1961.

TABLE 3
CAUSES OF DEATH DURING 1961
ABRIDGED INTERNATIONAL CLASSIFICATION

DISEASE	Male	Female	Total
18 Malignant Neoplasms	1	.....	1
19 Benign Neoplasms and neoplasms of unspecified nature .....	.....	1	1
22 Vascular lesions affecting Central Nervous System	1	1	2
26 Arteriosclerotic and degenerative heart disease .....	.....	1	1
27 Other Diseases of Heart .....	.....	1	1
31 Pneumonia .....	.....	1	1
33 Ulcer of Stomach and Duodenum	1	.....	1
37 Cirrhosis of Liver	1	.....	1
Totals	4	5	9

TABLE 4
CLASSIFICATION OF DEATHS ACCORDING TO ORIGINAL
PSYCHIATRIC DIAGNOSIS, 1961

DISEASE	Male	Female	Total
Mental Deficiency	3	4	7
Psychosis with Mental Deficiency	1	.....	1
Manic Depressive on Mental Defective Basis .....	.....	1	1
Totals	4	5	9

LINDEN HOUSE, RED DEER

PILOT PROJECT FOR EMOTIONALLY
DISTURBED CHILDREN

This project has now operated for two years. In 1961 ten children were admitted to Linden House—(five boys, five girls). Four children were discharged. Five were transferred from the project, two to the Provincial Mental Hospital, Ponoka, and three to the Provincial Training School, Red Deer. The nature of the procedures, treatments, activities and observations of the experiences thus far, are fully described in the separate annual report of the project, which follows.

LINDEN HOUSE SECOND ANNUAL REPORT
RED DEER

**L. J. le Vann, L.R.C.P. Edin.; L.R.C.S. Edin.;
L.R.F.P.S. Glas.: Medical Superintendent**

IN RESIDENCE, ADMISSIONS, TRANSFERS, DISCHARGES

There were ten children admitted to Linden House during the year; five males and five females. One female was transferred from the Provincial Training School, girls' villa, to Linden House.

Four children were permanently discharged; one child to her home and three children to foster home placements. Three of these children at the time of discharge, were regarded as recovered and one as improved. Five children were transferred from Linden House; two of these children being regarded as long-term patients suffering from childhood schizophrenia were transferred to the Provincial Mental Hospital and three children were transferred to the Provincial Training School who showed inconvertible evidence of straight-forward mental deficiency.

REQUESTS FOR ADMISSION

Applications remained low with a total of 11 being received for the year; six males and five females. These applications were received from the Calgary, Edmonton and Lethbridge guidance clinics. There were no children seen in the Red Deer or Central Alberta areas wherein it was felt admission to a residential setting was necessary.

VISITING BOARD AND VISITORS

Linden House was inspected by the Visiting Board during September of this year, as well as being visited several times by the Minister of Health, the Honorable Dr. J. Donovan Ross and Dr. Randall R. MacLean, Director of the Division of Mental Health. In addition, selected groups such as teachers, nurses and medical students visited Linden House. In deference to the children's wishes, visits were arranged as much as possible when the children were engaged in activities off the villa since many of the children protested against "being stared at" by strangers.

STAFF CHANGES AND ACTIVITIES

The staff situation showed marked stabilization and on a three-monthly basis one or two attendants or nursing staff from the Provincial Training School were exchanged with staff from Linden House in order that a reserve in depth in nursing personnel could be acquired. Great care was taken in maintaining selection of nursing staff and as much as possible, people of even stable disposition were chosen. During the year one psychologist and social worker resigned in order to further their professional standing. It was not possible to employ a psychiatrist, and his work generally was carried out by the Medical Superintendent from the Provincial Training School.

HEALTH OF CHILDREN AND STAFF

Other than a short-lived outbreak of an influenzal type occurring during the fall and early winter of 1961, there were no illnesses of consequence. In conformity with the Training School policy which was extended to Linden House, all children received the usual immunological injections designed against poliomyelitis, diphtheria, tetanus, and the enteric fevers. Routine chest X-rays were carried out on the children on admission as well as by the X-ray unit provided by the Alberta Tuberculosis Association when they visited the School in July.

TRAINING PROGRAM FOR NURSES AND ATTENDANTS

It was found that the training program given to the nursing students at the Provincial Training School provided a very effective and knowledgeable staff of nurses and attendants for Linden House. This training was further supplemented by clinical meetings held twice a week which were attended by the professional staff as well as the Matron, nursing and attendant staff.

THERAPY PROGRAM FOR CHILDREN

With minor modifications, the treatment program for the children showed little variance. Several of the children who remained at Linden House for their second year required far less in the way of intensive psycho-therapy and improved to such an extent that their stay at Linden House was only during the evening and to provide sleeping accommodation. During the rest of the time they attended school in the Red Deer School Division. Arrangements were made for an additional four children to commence school in the Red Deer Division following their Christmas vacation. Goals were set in conformity with socially acceptable practices in the normal community and every child was encouraged to reach levels of acceptable behaviour.

In many instances children were admitted to Linden House who had never been taught how to eat properly, keep themselves clean and totally lacking in any acceptable social usages. These children for the first time were confronted with a way of life of which they had no previous knowledge. Children already in residence at Linden House acted as spontaneous "teachers" for the newer children who quickly adapted themselves to the more acceptable way of behaviour demonstrated by the "senior boys or girls".

Play therapy continued to be a means of early communication between therapist and a child although this was quickly replaced with an intimacy of confidence and affection which might more readily be developed between a parent and child.

The weekly children's meetings were held during which the children discussed their aspirations or displeasures as well as self-criticism or criticism of other children. These conversations were encouraged to be held on a platonic level thereby creating little or no rancor amongst the children. The children elected at each meeting a boy and a girl who served as prefects for the week.

With the inclusion of Linden House children to the normal school setting in Red Deer there was some misgivings that the children would, as a result of their domiciliary experiences, meet unhappy or stressful

situations amongst their school-fellows. This apprehension was groundless since in every instance the children attending the school system in Red Deer were completely accepted and in case of younger children, a good deal of tolerance and friendliness was shown them.

It gradually came about that almost all of the children at Linden House adopted as newer goals, the privilege of attending school downtown which would ultimately lead to discharge and return home. In some instances the children coming from undesirable sociopathic home situations realized this and talked quite spontaneously about the inadvisability of their return home and how little it represented what a true home should be like.

The star chart system was maintained largely at the request of the children to whom this represented real achievement. One child decided to give up the star chart and the privileges associated with this and was permitted to do so. This phase lasted approximately three weeks when he spontaneously requested to be permitted to rejoin his fellows with the star chart. An honor system was also inaugurated wherein each child determined his effort one day in the week, usually Saturday, and awarded himself a red or blue star, or none, through self-evaluation of his days efforts.

As much as possible activities were organized from Linden House to resemble a normal home situation and all activities usually available to the "normal" child were created and entered into and experienced by the children of Linden House.

Children who had previously played truant and whose school work was regarded as "impossible" received their earlier "catching up" classes at Linden House prior to attending the regular school in town. The difficulties allegedly expressed by their previous scholastic setting were rarely encountered at Linden House possibly due to the fact that children could work in groups of three or four under the direct supervision of a teacher.

Amongst the activities carried out by the children at Linden House were included such things as attending hockey matches, camping, cinema performances both at the Training School and in town. Playground and winter sports were all available and utilized.

RECREATIONAL ACTIVITIES

All the children from Linden House attended recreational activities during the year provided by the recreational staff at the Training School. These included walks, picnics, camp fires, swimming lessons, as well as camping at the Randall R. MacLean cottages during the summer months.

Children who had no homes to go to either due to the fact that they were orphans or whose homes were essentially undesirable were able to go to the Gull Lake cottages during the last week in June where they cooked, made their beds and generally looked after themselves under the supervision of a staff member. The popularity of the camp was such that prior to closing, the children attended two additional weekends during the middle and latter half of September.

OCCUPATIONAL THERAPY

19 children attended occupational therapy which was used largely as a means of encouraging the children to work in unison and in the presence of other children. The children generally regarded attendance at occupational therapy classes as acceptable breaks during the school day.

Eight of the boys attended carpentry classes during the early period of the year but as time went on, became so involved and interested in their scholastic program that they asked to use the time spent in carpentry classes for additional tuition in school work.

EXTRA MURAL ACTIVITIES

Wherever possible home contacts between children and parents were encouraged and in several instances where there was overt rejection of the child by a parent it was felt that short holiday stays at home by the children might awaken latent parental impulses. In every instance parents spontaneously reported the behavioural improvement of their children as well as their emotional stability. Several children visited home for weekends throughout the year and in addition 17 children went home for the Easter holidays, 16 children went home for varying periods up to three and four weeks during the summer months and 18 children went home for the Christmas holidays.

The short summer holiday was suggested primarily because many of the children were being prepared for their "normal" school year in the city of Red Deer schools and required additional remedial work.

DISCUSSION

There were gradually emerging certain conclusions with respect to Linden House. It would appear that the need for wide-spread units for emotionally disturbed children in the Province of Alberta may have been over-estimated. Many children seen who were regarded as autistic or schizophrenic children were, in several instances, mentally retarded children reacting towards unacceptive parents producing undue pressure with the resultant bizarre behavioural pattern in the child.

One of the problems whose solution was not yet determined was the discharge of children from Linden House to suitable foster homes.

Linden House operated as an open villa throughout the year. There were no elopements nor any degree of destructiveness and the original policy of absence of corporal punishment was maintained as during the previous year.

It is believed that since this was a three year pilot-project, a conference should be held including the Director of the Division of Mental Health, Dr. Randall R. MacLean, the Provincial Guidance Clinics, representatives from the Department of Child Welfare and if feasible, the Minister of Health for the Province of Alberta, the Honorable Dr. J. Donovan Ross, in order to discuss experiences and requirements of this pilot-project with relation to its endeavors.

APPRECIATION

The Medical Superintendent would like to take this opportunity to express his sincere appreciation to the staff members of Linden House as well as the other departments of the Provincial Training School who provided the necessary amenities in carrying out and encouraging the functions at Linden House and in many instances worked in excess of the duty required of them. The sympathy and interest in Linden House shown by the Honorable Dr. J. Donovan Ross, Minister of Health for the Province of Alberta, was also appreciated as well as the frequent visits carried out by the Director of the Division of Mental Health, Dr. Randall R. MacLean. It is also fitting to mention the full co-operation of Mr. G. H. Dawe, Superintendent of Schools in Red Deer as well as the Red Deer Separate School Board who accepted the Linden House children back to the normal school community with compassion and understanding.

TABLE 1
MOVEMENT OF LINDEN HOUSE POPULATION

	M.	F.	T.
Children on books of Linden House as at 1st January, 1961	14	6	20
ADMISSIONS:			
First admissions—voluntary	5	4	9
Re-admissions .....	.....	.....	.....
Transfers—1 from Provincial Training School .....	.....	1	1
Total number of admissions	5	5	10
Total number of children on books during 1961	19	11	30
SEPARATIONS:			
Discharges	1	3	4
Transfers	3	2	5
3 to P.T.S. 2 to P.M.H.			
Total number of separations	4	5	9
Children on books of Linden House at 31st December, 1961	15	6	21

TABLE 2
MENTAL STATUS OF FIRST ADMISSIONS AND TRANSFERS

	Mental Status	First Admissions			Transfers			Totals		
		M.	F.	T.	M.	F.	T.	M.	F.	T.
03	Emotional Disorders..	.....	.....	.....	.....	.....	.....	.....	.....	.....
035	Social Withdrawal.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0392	Others	1	2	3	.....	1	1	1	3	4
04	Thinking Disorders .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
042	Lack of Concentration .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
045	Others	1	1	2	.....	.....	.....	1	1	2
08	Anti-social Trends .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
086	Vagabondage .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
087	Others	2	.....	2	.....	.....	.....	2	.....	2
12	Psychoses .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	300.7—Other and unspecified ..	.....	1	1	.....	.....	.....	.....	1	1
14	Normal Child	1	.....	1	.....	.....	.....	1	.....	1
Totals		5	4	9	.....	1	1	5	5	10

TABLE 3
AGE GROUP OF FIRST ADMISSIONS AND TRANSFERS

Age Group	First Admissions			Transfers			Totals		
	M.	F.	T.	M.	F.	T.	M.	F.	T.
5-7 years	2	2	4	.....	.....	.....	2	2	4
8-9 years	1	1	2	.....	1	1	1	2	3
10-12 years	2	1	3	.....	.....	.....	2	1	3
13-14 years .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	5	4	9	.....	1	1	5	5	10

THE EUGENICS BOARD

The Eugenics Board for the Province of Alberta held fifteen meetings during the year 1961. These meetings were held at the Provincial Mental Institute, Edmonton, the Provincial Mental Hospital, Ponoka, the Provincial Training School, Red Deer, and Deerhome, Red Deer. The dates of the meetings held during 1961 were as follows:

February 2nd, 1961	—	The Provincial Mental Institute, Edmonton
February 3rd, 1961	—	The Provincial Mental Hospital, Ponoka
February 3rd, 1961	—	The Provincial Training School, Red Deer
April 14th, 1961	—	The Provincial Mental Hospital, Ponoka
April 14th, 1961	—	The Provincial Training School, Red Deer
June 15th, 1961	—	The Provincial Mental Institute, Edmonton
June 16th, 1961	—	The Provincial Mental Hospital, Ponoka
June 16th, 1961	—	The Provincial Training School, Red Deer
September 21st, 1961	—	The Provincial Mental Institute, Edmonton
September 22nd, 1961	—	The Provincial Mental Hospital, Ponoka
September 22nd, 1961	—	The Provincial Training School, Red Deer
September 22nd, 1961	—	Deerhome, Red Deer
November 23rd, 1961	—	The Provincial Mental Institute, Edmonton
November 24th, 1961	—	The Provincial Mental Hospital, Ponoka
November 24th, 1961	—	The Provincial Training School, Red Deer

The Board considered a total of 121 cases, 119 of which were passed for surgery. One case was deferred because it did not fall within the scope of the Sexual Sterilization Act, and the other case was represented. Of the 119 cases which were passed by the Board in accordance with the Sexual Sterilization Act (1955-C.311,S.5), 44 were male and 75 female. Of this number 28 were passed subject to their own consent.

Of the 119 cases passed by the Board during the year, 76 had first been examined at a Provincial Guidance Clinic, although some of these had been institutionalized prior to presentation. This group of 76 cases was made up of 33 males and 43 females.

OPERATIONS:

Operations were performed on 104 cases during the year, 53 being male and 51 female. All of these operations were performed at the Provincial Mental Institute, Edmonton, the Provincial Mental Hospital, Ponoka, and the Provincial Training School, Red Deer, with the exception of one case for which surgery was performed at the University Hospital, Edmonton.

The surgical operations mentioned above were performed by the surgeons of the Board, Dr. J. Ross Vant, of Edmonton, and Dr. R. M. Parsons, of Red Deer.

APPRECIATION:

As in previous years the Eugenics Board wishes to express thanks and sincere appreciation to the Director, Division of Mental Health, to the Medical Superintendents and their staffs, to the surgeons, and to the Guidance Clinics, for their co-operation in connection with the work of the Eugenics Board.

TABULAR SUMMARY:

A tabular summary of the work of the Provincial Eugenics Board to December 31, 1961, is appended.

CASES PRESENTED AND PASSED

(To December 31, 1961)

Years	YEARLY TOTALS			CUMULATIVE TOTALS		
	Male	Female	Totals	Male	Female	Totals
1929-1933	87	201	288	87	201	288
1934-1938	557	438	995	644	639	1283
1939-1943	339	299	638	983	938	1921
1944-1948	237	311	548	1220	1249	2469
1949-1953	187	239	426	1407	1488	2895
1954	41	40	81	1448	1528	2976
1955	61	48	109	1509	1576	3085
1956	38	34	72	1547	1610	3157
1957	46	82	128	1593	1692	3285
1958	116	71	187	1709	1763	3472
1959	32	62	94	1741	1825	3566
1960	37	65	102	1778	1890	3668
1961	44	75	119	1822	1965	3787

OPERATIONS ONLY

(To December 31, 1961)

Years	YEARLY TOTALS			CUMULATIVE TOTALS		
	Male	Female	Totals	Male	Female	Totals
1929-1933	48	158	206	48	158	206
1934-1938	198	240	438	246	398	644
1939-1943	122	151	273	368	549	917
1944-1948	87	124	211	455	673	1128
1949-1953	84	162	246	539	835	1374
1954	37	25	62	576	860	1436
1955	45	25	70	621	885	1506
1956	22	24	46	643	909	1552
1957	49	33	82	692	942	1634
1958	54	53	107	746	995	1741
1959	40	50	90	786	1045	1831
1960	21	48	69	807	1093	1900
1961	53	51	104	860	1144	2004

NATIONAL HEALTH GRANTS

Since 1948 the Federal Government has made a series of Health Grants available to the provinces. These relate to various specific problems such as General Public Health, Venereal Disease Control, Hospital Construction, etc. Within these grants the province may prepare a project in which it is proposed that a new health service may be financed. If the project comes within the terms of the federal regulations, it is approved by the federal authorities and the money becomes available to reimburse the province for its expenditure.

In most of the grants the project covers the entire cost of the service as outlined in the project but it is required by the federal authorities, that their grant be matched in the Cancer Control and Hospital Construction Grants.

The following table shows the amount of these grants for 1961/62, the amount that was committed under the various projects, the amount actually expended and the percentage of the various grants that was expended.

NATIONAL HEALTH GRANTS
ALBERTA
1961 - 1962

Grant	Amount of Grant	Amount Committed	Amount Expended	Percentage of Grant Expended
Professional Training	\$ 130,846.00	\$ 129,951.08	\$ 126,003.84	96%
Hospital Construction	1,249,456.00	2,494,903.63	1,328,445.29	106%
Mental Health	637,666.00	637,666.00	637,666.00	100%
Tuberculosis Control	215,218.00	215,218.00	215,218.00	100%
General Public Health	1,039,130.00	1,039,130.00	1,039,130.00	100%
Cancer Control	254,623.00	254,623.00	254,623.00	100%
Medical Rehabilitation and Crippled Children	191,604.00	117,984.72	113,412.59	59%
Child and Maternal Health	127,581.00	70,031.00	61,134.56	48%
	<u>\$3,846,124.00</u>	<u>\$4,959,507.43</u>	<u>\$3,775,633.28</u>	<u>88%</u>

Note: The Hospital Construction Grant is an accumulative grant and new projects under planning will eventually use up all available funds.

BLOOD TRANSFUSION SERVICE

D. I. Buchanan, M.D., D.P.H., (Edmonton)

E. W. Nation, M.B., M.R.C.P., (Calgary)

This brief report is essentially a statistical one on the collection, usage, and distribution of blood for transfusion purposes. It should be noted, however, that there was a shortage of donors in Edmonton and the north of the province to the extent that demands from hospitals exceeded available supplies of blood during six months out of the whole 12-month period. Table 1 indicates the total collections.

TABLE 1
BOTTLES COLLECTED, 1961

Jan. 1 to Dec. 31 (inclusive)	Permanent and City Mobiles	Mobile Clinics		
Northern Alberta	18,513	14,220	=	32,733
Southern Alberta	14,305	17,373	=	31,678
TOTAL	32,818	31,593	=	64,411

BLOOD TRANSFUSIONS

The number of blood transfusions administered, and the number of patients receiving these transfusions are listed in Table 2.

TABLE 2
TRANSFUSIONS OF WHOLE BLOOD, 1961

Jan. 1 to Dec. 31 (inclusive)	Blood Transfusions Administered	Patients Transfused
Northern Alberta	23,674½	9,757
Southern Alberta	18,045	8,948
TOTAL	41,719½	18,705

FRESH BLOOD AND PLASMA

The demand from individual hospitals for fresh blood is steadily increasing, and it is clear that many of our principal hospitals have now become so large that it is no longer practical to investigate each unusual request for blood, nor is it practical to perform crossmatching in one central laboratory on an indefinite basis.

Fresh frozen plasma is also prepared for patients suffering from hemophilia and Christmas disease. During 1961, 289 bottles of freshly frozen plasma were prepared in Edmonton and administered to 66 patients. From Calgary, 320 pools and from Edmonton 208 pools of liquid plasma were shipped to the Connaught Laboratories during 1961 for fractionation.

RH AND ANTENATAL WORK

The investigation of "routine" and of special blood grouping problems continues, and 41,524 antenatal, postnatal, and related specimens were tested during the year, as shown in Table 3.

TABLE 3
Rh. AND OTHER INVESTIGATIONS, 1961

Jan. 1 to Dec. 31 (inclusive)	Antenatal Specimens and Others Investigated
Northern Alberta	24,343
Southern Alberta	17,181
TOTAL	<u>41,524</u>

It is not generally appreciated that the Canadian Red Cross Blood Transfusion Service and the Department of Health of the Government of the Province of Alberta work closely together in maintaining this unusual and complete transfusion program. We are also grateful for all the assistance given by the Department of Public Works in maintaining the two depot buildings in good working order.

TECHNICAL TRAINING

Finally, it may be recalled that a small number of student technicians are being trained in this specific field of blood grouping and associated techniques. The course has been a whole-time one and it occupies a complete 12-month period. This project is the only one of its kind in Canada, and it was started in Edmonton in 1957. The great majority of the technicians working in these two centres in Alberta are people who have completed this one-year curriculum.

This vital service, as a whole, depends upon the continued goodwill and understanding of the public and all associated with it in the hospitals and Government, not forgetting the many volunteer workers, and we should like to pay special tribute to the many people who are involved in this work.

PART II

ANNUAL REPORT

OF THE

Division of Vital Statistics

OF THE

DEPARTMENT OF PUBLIC HEALTH
PROVINCE OF ALBERTA

For The Year 1961

(Fifty-Seventh Annual Report)

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DEFINITIONS

- Infant deaths —deaths under 1 year of age.
- Neo-natal --deaths under 28 days (4 weeks) of age.
- Maternal —deaths due to delivery and complications of pregnancy, childbirth and the puerperium (Categories 640 - 689 International List).
- Stillbirths —foetal deaths of 28 or more weeks' gestation.
- Perinatal deaths—foetal deaths of 28 or more weeks' gestation plus infant deaths under 7 days (1 week) of age.
- Natural increase —excess of births over total deaths. (Death figures do not include stillbirths.)

RATES

(Unless otherwise indicated computed as follows)

- Per 1,000 population; Live births, deaths, natural increase, marriages.
- Per 100,000 population; Causes of death, divorces.
- Per 1,000 live births; Infant and neo-natal deaths, stillbirths.
- Per 10,000 live births; Maternal deaths.
- Per 1,000 total births (live- and still-born): Perinatal deaths.

Division of Vital Statistics

JOHN COLVILLE, Director

INTRODUCTION

The Vital Statistics tabulations for the year 1961 disclose there are slight decreases in the birth, marriage and death rates, increases in the infant, maternal, peri-natal and neo-natal death rates and the divorce rates as compared to the previous year. The stillbirth rate remained the same, and the rate of natural increase, excess of birth over deaths was 22.5% as compared to 23.5% for 1960.

POPULATION

The Dominion Census taken on June 1st, 1961, established the population of the province at 1,331,944, an increase of 208,828 over the 1956 figure of 1,123,116. All rates in this report are based on the census figure of 1,331,944. Between pages 8 and 9 is a map of the province by census divisions, and commencing on page 10, a population table by census sub-divisions.

BIRTHS

Although a high birth rate has been maintained in the province for a considerable number of years, it has declined slightly each year since 1954. The rate for 1961 is 29.2 per 1,000 population, a decrease of 1.2% from the previous year's rate. This rate, however, compares favourably with the rate for Canada of 26.1.

The number of births to residents of the province was 38,914 of which 38,762 occurred in the province. Of the births to residents, 19,889 were males and 19,025 females, the sex ratio being 1,045 males to 1,000 females. Illegitimate births numbered 2,430, and constituted a rate of 6.2 per 100 live births. Ninety-eight point six percent of the births took place in hospitals, and 87% occurred in urban centres of 1,000 population or over. Multiple births comprised one set of triplets and 441 sets of twins. The births of 2,050 Indians were included in the total number of births.

The number of births to residents of cities in the Province were as follows: Calgary, 7,556; Camrose, 184; Drumheller, 103; Edmonton, 8,572; Grande Prairie, 363; Lethbridge, 939; Medicine Hat, 645; Red Deer, 648; Wetaskiwin, 153.

The following Table shows the most recent birth rates for Canada and certain other countries:

Canada	26.1	United States	23.4
Newfoundland	34.1	Australia	22.8
Prince Edward Island	27.1	New Zealand	27.1
Nova Scotia	26.3	Denmark	16.7
New Brunswick	27.7	Finland	18.4
Quebec	26.1	France	18.4
Ontario	25.3	Italy	18.8
Manitoba	25.3	Austria	18.5
Saskatchewan	25.9	Norway	17.5
Alberta	29.2	Netherlands	21.2
British Columbia	23.7	Portugal	23.6
England and Wales	17.4	Spain	21.3
Scotland	19.5	Sweden	13.9
Northern Ireland	22.4	Switzerland	18.1
Ireland (Republic)	21.3	Western Germany	18.2

MARRIAGES

During 1961, 10,474 marriages were registered, being eight fewer than in the previous year. The rate was 7.9 per 1,000 population. There has been a gradual decline in the marriage rate since 1946, and the main contributing factor appears to be a reflection of the low birth rate during the 1930's. There are fewer Canadian born persons reaching marriageable age. July was the most popular month for celebrating marriages, and January the least popular.

Over 89% of the marriages were between persons who had not previously been married, 4% of the brides and grooms had been widowed, and 6% were divorced persons. Of the grooms, 9,477 were bachelors; 364 widowers; 633 divorced, and of the brides, 9,266 were spinsters; 534 widows; and 674 divorced.

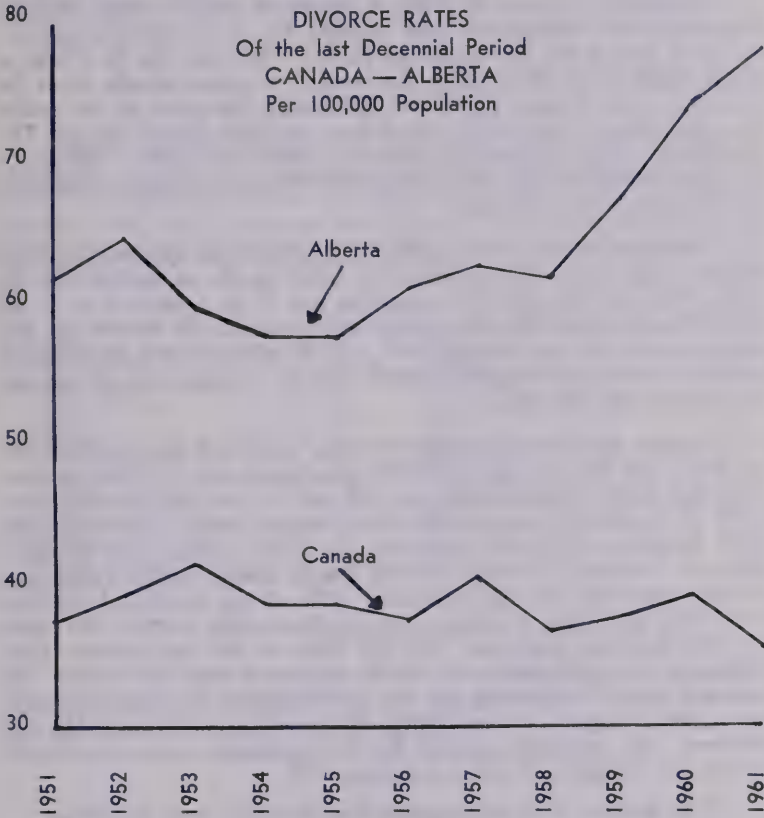
The number of marriages registered in the cities of the province were as follows: Calgary, 2,232; Camrose, 79; Drumheller, 66; Edmonton, 3,115; Grande Prairie, 135; Lethbridge, 369; Medicine Hat, 294; Red Deer, 220; Wetaskiwin, 75.

The following table shows the latest marriage rates for Canada and certain other countries:

Canada	7.0	United States	8.5
Newfoundland	7.2	Australia	7.3
Prince Edward Island	6.0	New Zealand	8.0
Nova Scotia	7.2	Denmark	8.0
New Brunswick	7.5	Finland	7.7
Quebec	6.8	France	6.7
Ontario	7.1	Italy	8.0
Manitoba	7.1	Austria	8.4
Saskatchewan	6.6	Norway	6.5
Alberta	7.9	Netherlands	8.0
British Columbia	6.7	Portugal	8.5
England and Wales	7.5	Spain	7.8
Scotland	7.8	Sweden	7.0
Northern Ireland	6.9	Switzerland	7.7
Ireland (Republic)	5.4	Western Germany	9.4

DIVORCES

A total of 1,039 divorces were granted during 1961, the highest number recorded in the history of the province. In addition, there were 17 decrees of nullity. Of the divorces, 378 were granted to husbands, and 661 to wives. The divorce rate was 78.0 per 100,000 population.



DEATHS

The death rate for 1961 was 6.7 per 1,000 population, a decrease of .2 from the previous year. This rate is the second lowest of the provinces, and compares favourably to the rate for Canada of 7.7. There were 8,862 deaths of residents recorded, of which 5,695 were males and 3,168 females, giving a sex ratio of 1,797 male to 1,000 female deaths. Of the total deaths, 5,035 or 56.8% were decedents of 65 years and over.

The five leading causes of death in order of standing were; diseases of the heart, cancer, vascular lesions affecting the central nervous system, accidents—violence, and pneumonia (all forms).

There were 2,710 deaths assigned to diseases of the heart, a decrease of 90 from the previous year. The rate per 100,000 population

was 203, compared to 218 for 1960. Mortality from heart disease was practically non-existent under 14 years of age, and thereafter, it increased without interruption to a maximum in old age. In the age group of 5 to 34 years, the primary cause of heart disease is rheumatic fever, and from 35 years on, arteriosclerotic heart disease and coronary artery disease.

Cancer as a cause of death is surpassed only by heart disease. Mortality from cancer has risen steadily for a considerable number of years, and in the last decennial period, 1961 was the first year in which there was a decrease in the number of cancer deaths from the preceding year. Cancer knows no age barrier, but most of the deaths from this cause occur in the period from mid-adult life to old age. The number of deaths assigned to cancer in 1961 was 1,360, a decline of 79 from 1960. The rate was 102 per 100,000 population as compared to 112 for the previous year.

Vascular lesions affecting the central nervous system, the third highest cause of death, accounted for 1,008 deaths as against 934 for 1960. The rate per 100,000 population was 75 as compared to 72 for 1960. Deaths from this cause pretty well commence in middle age and increase with old age. During 1961, 95.7% of the deaths attributed to vascular lesions affecting the central nervous system, were of persons 50 years of age and over.

Deaths due to accidents and violence combined, amounted to 841 in 1961 and the rate per 100,000 population was 63. The number recorded in the previous year was 832 and the rate 64. Of this group, 17% of the fatalities were suffered by children under 15 years of age, 46% by persons 15 to 50 years old, and 37% to those over 50 years. The sex ratio was 349 male to 100 female deaths. Motor vehicle accidents accounted for approximately 37% of the accidental fatalities with 273; this figure however, contrasts favourably to the 1960 figure of 302. Suicides numbered 119, the same as for the previous year. Other violent and accidental deaths registered were as follows: accidental fall, 92; drowning, 59; fire and explosion of combustible material, 49; transport, 37; poisoning, 33; machinery, 35; homicide, 18; firearms, 16; accidents caused by hot substance, corrosive liquid, steam and radiation, 3; other accidents, 107.

The number of deaths registered in the cities were as follows:

Calgary, 1,734; Camrose, 180; Drumheller, 37; Edmonton, 1,726; Grande Prairie, 71; Lethbridge, 243; Medicine Hat, 226; Red Deer, 131; Wetaskiwin, 62.

The following table shows the most recent death rates for Canada and certain other countries:

Canada	7.7	United States	9.3
Newfoundland	6.6	Australia	8.5
Prince Edward Island	9.3	New Zealand	9.0
Nova Scotia	8.3	Denmark	9.5
New Brunswick	7.9	Finland	9.0
Quebec	7.0	France	11.0
Ontario	8.2	Italy	9.4
Manitoba	8.0	Austria	12.0
Saskatchewan	7.7	Norway	9.1
Alberta	6.7	Netherlands	7.6
British Columbia	8.8	Portugal	10.7
England and Wales	12.0	Spain	8.6
Scotland	12.3	Sweden	9.8
Northern Ireland	11.3	Switzerland	9.3
Ireland (Republic)	12.3	Western Germany	10.9

MATERNAL DEATHS

Puerperal deaths in 1961 numbered 9, an increase of 2 over 1960. The rate for 1961 was 2.3 as compared to 1.8 for 1960.

MATERNAL DEATH RATES PER 10,000 LIVE BIRTHS

Canada	4.6	Ontario	4.2
Newfoundland	7.1	Manitoba	5.6
Prince Edward Island	3.5	Saskatchewan	2.5
Nova Scotia	2.1	Alberta	2.3
New Brunswick	4.8	British Columbia	2.6
Quebec	6.5		

INFANT DEATHS

Deaths of children under one year of age numbered 1,044, an increase of 22 over the previous year. The rate for 1961 was 27 per 1,000 live births as compared to 26 for 1960. This is the second consecutive year in which the rate has increased. There were 612 male and 432 female deaths recorded, giving the sex ratio 1,421 male to 1,000 female deaths.

INFANT MORTALITY RATES PER 1,000 LIVE BIRTHS

Canada	27	United States	25
Newfoundland	38	Australia	20
Prince Edward Island	31	New Zealand	19
Nova Scotia	28	Denmark	22
New Brunswick	26	Finland	20
Quebec	31	France	26
Ontario	23	Italy	44*
Manitoba	25	Austria	33
Saskatchewan	26	Norway	19*
Alberta	27	Netherlands	15
British Columbia	24	Portugal	89
England and Wales	21	Spain	38
Scotland	26	Sweden	16
Northern Ireland	28	Switzerland	21*
Ireland (Republic)	30	Western Germany	32

* (1960)

STILLBIRTHS

Stillbirths (foetal deaths—28 plus weeks gestation) numbered 372, constituting a rate of 9.6 per 1,000 live births. There was one less stillbirth than in the previous year, and the rate remained the same. The 1961 rate was the lowest for the provinces.

ADMINISTRATION

The Vital Statistics Act, The Solemnization of Marriage Act, and the Regulations providing for the licensing of embalmers are administered by the Director of the Division of Vital Statistics.

Under the provisions of The Vital Statistics Act the administrative procedure necessary for matters of civil registration is provided. There are approximately 167 District Registrars located in the larger centres of the province whose duties are to acquire the registration of each vital event (birth, stillbirth, marriage and death) which occurs within their districts for recording and transmission to this Division on a weekly basis. In addition, decrees of dissolution and annulments for marriages, adoptions, and legal changes of names are received for recording. All registrations are edited, etc., arranged and bound in a systematic manner and continuous indexes prepared. Certified copies; photocopies of original registrations; certified extracts; certificates and verifications are issued to applicants or agencies upon receipt of the

prescribed fee. Verifications and photocopies of registrations are also supplied free of charge to other government departments and certain authorized agencies.

Listed below is a summary of work processed under the provisions of The Vital Statistics Act during 1961:

Births processed	39,807
Stillbirths processed	380
Marriages processed	11,497
Deaths processed	9,962
Certificates of Birth	58,632
Certificates of Marriage	17,790
Certificates of Death	4,710
Searches	368
Legal Changes of Surname recorded	423
Changes of Christian Names recorded	661
Legitimations of birth	167
Delayed Registrations of Birth and Marriage	910
Adoptions Registered	1,522

Under The Solemnization of Marriage Act the Division provides administrative procedure for the appointment of Marriage License Issuers, Marriage Commissioners, and the registration of clergymen authorized to perform marriages in the province. Approximately 152 Marriage License Issuers are located in the larger centres of the province whose duties are to issue marriage licenses and certificates of publication of banns in accordance with the provisions of The Marriage Act.

The following summary shows work processed under the provisions of The Solemnization of Marriage Act during the year 1961:

Marriage Licenses	10,398
Certificates of Publication of Banns	134
Clergymen Registered	2,412
Marriage Commissioners registered	14

Under the provisions of the Regulations providing for the licensing of Embalmers, the Division licenses embalmers and registers apprentice embalmers. During the year, 185 embalmers were licensed and ten apprentice embalmers registered.

ANNUAL REPORT, 1961

7

DIVISION OF VITAL STATISTICS

Revenue and Expenditure

For the Fiscal Year Ending March 31st. 1962

REVENUE

MARRIAGE ACT

Marriage Licenses	\$ 57,136.50
Publication of Banns	372.00
	<u>\$ 57,508.50</u>

VITAL STATISTICS ACT

Birth Certificates Issued	\$ 59,118.00
Marriage Certificates Issued	17,803.00
Death Certificates Issued	4,736.00
Certified Copies Issued	1,240.00
Microfilm Transcriptions	6,220.30
Certificates of Authority to Register	1,804.00
Changes of Christian Names	621.00
Legitimations	338.00
Embalmers Licenses	925.00
Apprentice Embalmers Licenses	50.00
Searches	414.00
Sundry Revenue	6,913.02
	<u>\$ 100,182.32</u>

TOTAL REVENUE \$ 157,690.82

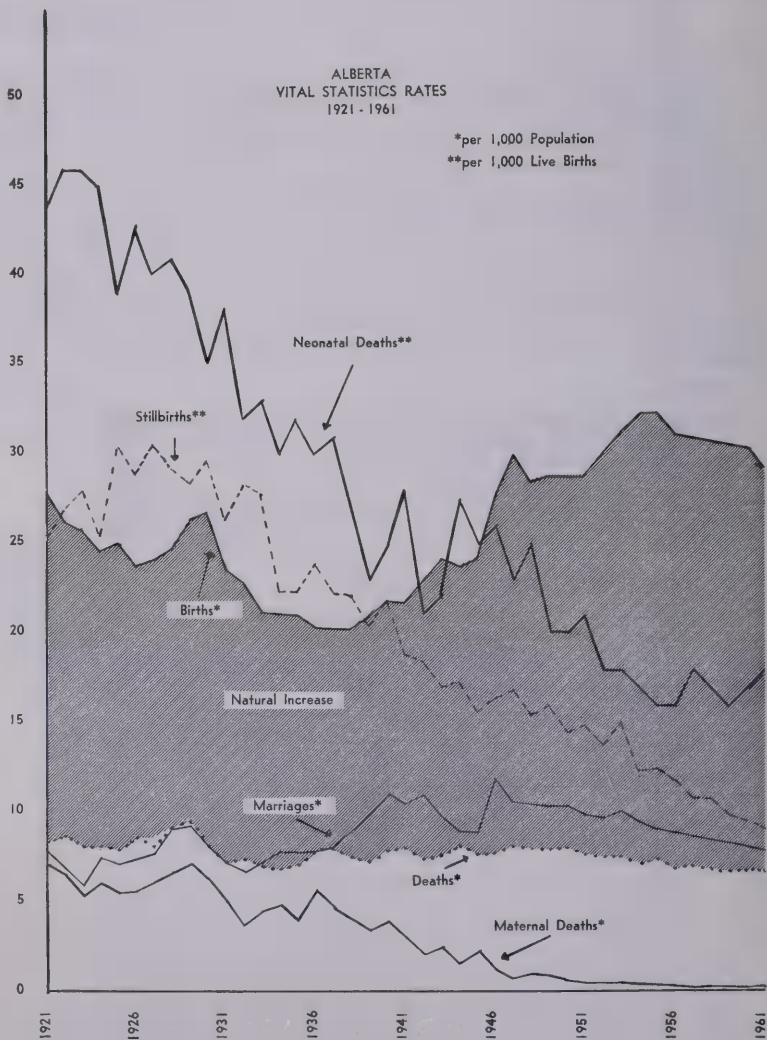
EXPENDITURE

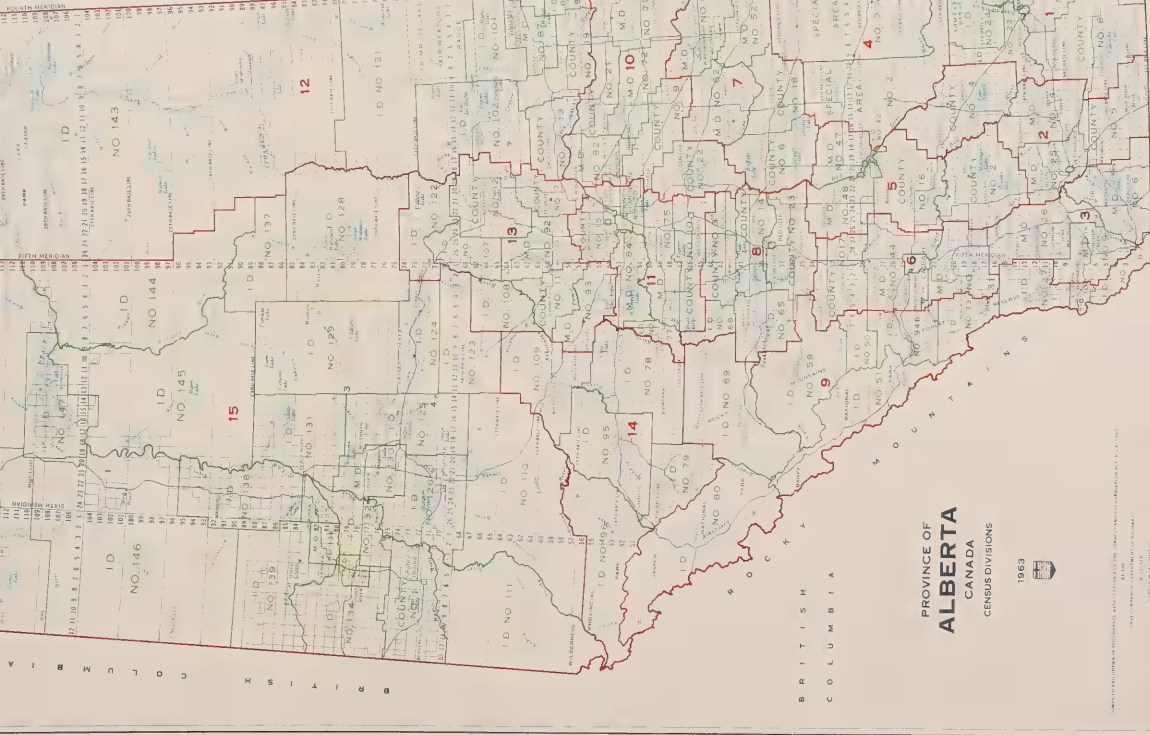
Salaries	\$ 85,172.86
Office Expenditure:	
Printing and Stationery	12,403.90
Furnishings, Equipment and Tools	628.93
Freight, Express and Cartage	50.42
Fees and Commissions	100.00
Postage	5,628.22
Repairs—Furnishings and Equipment	18.75
Repairs—Office Equipment	677.38
Telephones and Telegrams	83.48
Travelling and Subsistence	72.35
Payments to Registrars	19,663.43
	<u>11,380.25</u>

TOTAL EXPENDITURE \$ 116,216.54

SURPLUS: Revenue over Expenditure \$ 41,474.28

DIVISION OF VITAL STATISTICS





PROVINCE OF
ALBERTA
 CANADA
 CENSUS DIVISIONS

1963



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DIVISIONS OF ALBERTA FOR CENSUS AND VITAL STATISTICS PURPOSES

As the Province of Alberta is not completely divided into counties, and the political divisions are not permanently fixed, it has been found advisable to use smaller areas, the Dominion Census Divisions.

Prior to 1956 the Province was divided into 17 census divisions. However, in 1956 the census division boundaries were completely revised and there are now 15 census divisions. These divisions are further sub-divided into municipal areas. The municipal areas which were each originally within the boundaries of a single census division, have been reorganized by the Provincial authorities into larger units, and now, in many cases, part of the new municipality or improvement district is in one census division and part in another.

The following table shows the census divisions, divided into municipalities, improvement districts, cities, towns and villages with the 1961 and 1956 division population figures.

POPULATION OF CENSUS DIVISIONS OF ALBERTA CLASSIFIED BY MUNICIPALITIES
FOR CENSUS YEARS, 1956 and 1961

Division and Subdivision	Total		Division and Subdivision	Total	
	1961	1956		1961	1956
ALBERTA	1,331,944	1,123,116	Division No. 1	39,140	34,496
Division No. 1	39,140	34,496	11. I.D.—D.A.	4,228	4,076
11. I.D.—D.A.	4,228	4,076	22. I.D.—D.A.	553	592
22. I.D.—D.A.	553	592	Forty Mile County No. 8	4,716	4,224
Forty Mile County No. 8	4,716	4,224	Army Experimental		
Army Experimental			Range, I.D.—D.A.—24	786	863
Range, I.D.—D.A.—24	786	863	Cities:		
Cities:			Medicine Hat	24,484	20,826
Medicine Hat	24,484	20,826	Towns:		
Towns:			Bow Island	1,122	1,001
Bow Island	1,122	1,001	Irvine	240	232
Irvine	240	232	Redcliff	2,221	2,001
Redcliff	2,221	2,001	Villages:		
Villages:			Burdett	229	225
Burdett	229	225	Foremost	561	456
Foremost	561	456	Division No. 2	83,306	74,991
Division No. 2	83,306	74,991	14. Taber	7,349	6,730
14. Taber	7,349	6,730	25. Lethbridge	11,184	11,624
25. Lethbridge	11,184	11,624	Newell County No. 4	6,038	5,943
Newell County No. 4	6,038	5,943	Warner County No. 5	4,991	5,157
Warner County No. 5	4,991	5,157	Cities:		
Cities:			Lethbridge	35,454	29,462
Lethbridge	35,454	29,462	Towns:		
Towns:			Bassano	815	753
Bassano	815	753	Brooks	2,827	2,320
Brooks	2,827	2,320	Coaldale	2,592	2,327
Coaldale	2,592	2,327	Milk River	801	642
Milk River	801	642	Picture Butte	978	881
Picture Butte	978	881	Raymond	2,362	2,399
Raymond	2,362	2,399	Taber	3,951	3,688
Taber	3,951	3,688	Vauxhall	942	713
Vauxhall	942	713	Villages:		
Villages:			Barons	345	352
Barons	345	352	Coutts	469	.....
Coutts	469	.....	Duchess	218	177
Duchess	218	177	Grassy Lake	274	282
Grassy Lake	274	282	Nobleford	309	263
Nobleford	309	263	Rosemary	210	158
Rosemary	210	158	Stirling	468	430
Stirling	468	430	Tilley	257	240
Tilley	257	240	Warner	472	450
Warner	472	450	Division No. 3	30,967	30,426
Division No. 3	30,967	30,426	6. Cardston	4,905	5,398
6. Cardston	4,905	5,398	9. Pincher Creek	3,240	3,109
9. Pincher Creek	3,240	3,109	26. Willow Creek	4,863	6,344
26. Willow Creek	4,863	6,344	Indian Reserves	3,889	3,524
Indian Reserves	3,889	3,524	Towns:		
Towns:			Cardston	2,801	2,607
Cardston	2,801	2,607	Claresholm	2,143	2,431
Claresholm	2,143	2,431	Fort Macleod	2,490	2,103
Fort Macleod	2,490	2,103	Granum	290	322
Granum	290	322	Magrath	1,338	1,382
Magrath	1,338	1,382	Nanton	1,054	1,047
Nanton	1,054	1,047	Pincher Creek	2,961	1,729
Pincher Creek	2,961	1,729	Stavelly	349	338
Stavelly	349	338	Villages:		
Villages:			Cowley	127	92
Cowley	127	92	Glenwood	274	.....
Glenwood	274	.....	Hill Spring	243	.....
Hill Spring	243	.....	Division No. 4	15,020	14,294
Division No. 4	15,020	14,294	34. Acadia	965	914
34. Acadia	965	914	Special Area No. 2	3,805	3,687
Special Area No. 2	3,805	3,687	Special Area No. 3	4,994	5,036
Special Area No. 3	4,994	5,036	Towns:		
Towns:			Hanna	2,645	2,327
Hanna	2,645	2,327	Villages:		
Villages:			Cereal	185	154
Cereal	185	154	Chinook	114	154
Chinook	114	154	Consort	557	434
Consort	557	434	Empress	405	480
Empress	405	480	Oyen	780	562
Oyen	780	562	Veteran	239	241
Veteran	239	241	Youngstown	321	305
Youngstown	321	305	Division No. 5	38,115	38,120
Division No. 5	38,115	38,120	42. I.D.—D.A.	4,370	5,502
42. I.D.—D.A.	4,370	5,502	47. Starland	2,907	2,831
47. Starland	2,907	2,831	48. Kneehill	7,008	7,055
48. Kneehill	7,008	7,055	Vulcan County No. 2	5,018	5,087
Vulcan County No. 2	5,018	5,087	Wheatland County No. 16	5,570	5,582
Wheatland County No. 16	5,570	5,582	Indian Reserves	1,612	1,507
Indian Reserves	1,612	1,507	Cities:		
Cities:			Drumheller	2,931	2,632
Drumheller	2,931	2,632	Towns:		
Towns:			Gleichen	426	581
Gleichen	426	581	Strathmore	924	727
Strathmore	924	727	Three Hills	1,491	1,095
Three Hills	1,491	1,095	Vulcan	1,310	1,204
Vulcan	1,310	1,204	Villages:		
Villages:			Acme	328	292
Acme	328	292	Arrowwood	195	240
Arrowwood	195	240	Carbon	371	354
Carbon	371	354	Carmangay	297	299
Carmangay	297	299	Champion	419	402
Champion	419	402	Cluny	174	197
Cluny	174	197	Craigmyle	107	138
Craigmyle	107	138	Delia	287	282
Delia	287	282	Hussar	213	168
Hussar	213	168	Lomond	244	189
Lomond	244	189	Milo	167	167
Milo	167	167	Morrin	316	267
Morrin	316	267	Munson	82	82
Munson	82	82	Rockyford	288	226
Rockyford	288	226	Rumsey	123	104
Rumsey	123	104	Standard	266	230
Standard	266	230	Trochu	671	680
Trochu	671	680	Division No. 6	317,989	237,886
Division No. 6	317,989	237,886	31. Foothills	7,896	7,902
31. Foothills	7,896	7,902	44. Rocky View	10,748	12,788
44. Rocky View	10,748	12,788	46. I.D.—D.A. ....	.....	4,650
46. I.D.—D.A. ....	.....	4,650	Mountain View County		
Mountain View County			No. 17	9,348	9,273
No. 17	9,348	9,273	Indian Reserves	511	478
Indian Reserves	511	478	Cities:		
Cities:			Calgary	249,641	181,780
Calgary	249,641	181,780	Towns:		
Towns:			Black Diamond	1,043	991
Black Diamond	1,043	991	Bowness	9,184	6,217
Bowness	9,184	6,217	Didsbury	1,254	1,227
Didsbury	1,254	1,227	Forest Lawn	12,263	3,150
Forest Lawn	12,263	3,150	High River	2,276	2,102
High River	2,276	2,102	Montgomery	5,077	.....
Montgomery	5,077	.....	Okotoks	1,043	764
Okotoks	1,043	764	Olds	2,433	1,980
Olds	2,433	1,980	Sundre	853	923
Sundre	853	923	Villages:		
Villages:			Airdrie	524	327
Airdrie	524	327	Beiseker	360	321
Beiseker	360	321	Blackie	184	198
Blackie	184	198	Carstairs	665	449
Carstairs	665	449	Cayley	146	146
Cayley	146	146	Cochrane	857	707
Cochrane	857	707	Cremona	221	192
Cremona	221	192	Crossfield	593	459
Crossfield	593	459	Irricana	167	158
Irricana	167	158	Turner Valley	702	704
Turner Valley	702	704	Division No. 7	40,837	40,214
Division No. 7	40,837	40,214	52. Provost	3,328	3,621
52. Provost	3,328	3,621	53. Paintearth	3,278	3,515
53. Paintearth	3,278	3,515	61. Wainwright	4,847	4,481
61. Wainwright	4,847	4,481	62. Flagstaff	6,355	6,806
62. Flagstaff	6,355	6,806	Stettler County No. 6	5,968	6,061
Stettler County No. 6	5,968	6,061	Buffalo National Park	.....	604
Buffalo National Park	.....	604	Towns:		
Towns:			Castor	1,025	958
Castor	1,025	958	Coronation	864	784
Coronation	864	784	Daysland	539	499
Daysland	539	499	Hardisty	582	628
Hardisty	582	628	Provost	1,022	878
Provost	1,022	878	Stettler	3,638	3,359
Stettler	3,638	3,359	Wainwright	3,351	2,653
Wainwright	3,351	2,653			

POPULATION OF CENSUS DIVISIONS OF ALBERTA CLASSIFIED BY MUNICIPALITIES
FOR CENSUS YEARS, 1956 and 1961 (Continued)

Division and Subdivision	Total		Division and Subdivision	Total	
	1961	1956		1961	1956
Div. No. 7—Continued:					
Villages:					
Alliance	291	313			
Amisk	127	151			
Big Valley	461	354			
Botha	112	102			
Chauvin	395	353			
Czar	196	153			
Donalda	289	256			
Edgerton	295	292			
Forestburg	677	552			
Gadsby	99	145			
Galahad	231	215			
Halkirk	172	209			
Heisler	214	.....		
Hughenden	294	212			
Irma	425	421			
Killam	552	524			
Lougheed	217	201			
Rochon Sands	28	.....		
Sedgewick	655	608			
Strome	311	306			
Division No. 8	76,533	64,168			
55. Red Deer	13,477	12,830			
65. I.D.—D.A.	5,532	5,199			
68. I.D.—D.A.	124	81			
Ponoka County No. 3... ..	8,688	8,611			
Lacombe County No. 14 ..	8,725	8,351			
Indian Reserves	1,246	1,230			
Cities:					
Red Deer	19,612	12,338			
Towns:					
Innisfail	2,270	1,883			
Lacombe	3,029	2,747			
Ponoka	3,938	3,387			
Rimby	1,266	960			
Rocky Mtn. House	2,960	1,285			
Sylvan Lake	1,381	1,114			
Villages:					
Alix	631	517			
Bentley	588	536			
Blackfalds	477	340			
Bowden	437	296			
Caroline	321	296			
Clive	251	249			
Delburne	450	429			
Eckville	580	456			
Elnora	214	177			
Gull Lake	40	32			
Mirror	577	591			
Penhold	319	213			
Division No. 9	20,274	17,239			
8. I.D.—D.A.	80	110			
10. I.D.—D.A.	1,844	3,269			
27. I.D.—D.A.	133	100			
33. I.D.—D.A.	34	47			
50. I.D.—D.A.	41	75			
58. I.D.—D.A.	534	429			
69. I.D.—D.A.	505	152			
946. I.D.—D.A.	3,076	2,456			
Banff National Park	4,101	3,069			
Banff (not incorp.)	3,429	2,518			
Jasper National Park	2,902	2,322			
Jasper (not incorp.)	2,360	2,105			
Waterton Lakes					
National Park	344	277			
Indian Reserves	1,441	1,173			
Towns:					
Blairmore	1,980	1,973			
Coleman	1,713	1,566			
Villages:					
Bellevue	1,323	.....		
Frank	223	221			
Ghost Lake .....	.....	.....	
Division No. 10	70,177	71,500			
63. Camrose	9,041	9,626			
71. Vermillion River	8,862	9,557			
72. Minburn	6,181	6,742			
81. Eagle	6,205	7,114			
82. Lamont	6,754	7,700			
Div. No. 10—Continued:					
Beaver County No. 9					
Elk Island N't'l. Park	6,476	6,883			
	69	56			
Cities:					
Camrose	6,939	5,817			
Lloydminster (pt.)	2,944	2,506			
Towns:					
Mundare	603	650			
Tofield	905	800			
Two Hills	826	713			
Vegreville	2,908	2,574			
Vermillion	2,449	2,196			
Viking	1,043	897			
Villages:					
Andrew	601	602			
Bashaw	614	597			
Bawlf	203	287			
Bittern Lake	76	45			
Bruderheim	299	290			
Chipman	174	192			
Derwent	281	289			
Dewberry	179	.....		
Edberg	179	167			
Ferintosh	174	195			
Hairy Hill	173	183			
Hay Lakes	233	193			
Holden	556	544			
Innisfree	291	318			
Kitscoty	233	283			
Lamont	705	632			
Lavoy	131	127			
Mannville	632	599			
Marwayne	379	337			
Minburn	164	150			
Myrnam	441	440			
New Norway	263	273			
Ryley	469	495			
Willington	429	431			
Division No. 11	410,679	323,539			
75. Leduc	10,647	11,497			
77. I.D.—D.A.	2,384	3,259			
83. Strathcona	12,075	8,873			
84. Stony Plain	9,238	8,491			
Wetaskiwin County					
No. 10	8,701	9,466			
Sturgeon County No. 15 ..	17,837	13,885			
Indian Reserves	2,072	1,786			
Cities:					
Edmonton	281,027	226,002			
Wetaskiwin	5,300	4,476			
Towns:					
Beverly	9,041	4,602			
Calmar	700	730			
Devon	1,418	1,429			
Drayton Valley	3,854	2,588			
Fort Saskatchewan	2,972	2,582			
Jasper Place	30,530	15,957			
Leduc	2,356	2,008			
Lodgepole	508	.....		
Morinville	935	957			
St. Albert	4,059	1,320			
Stony Plain	1,311	1,098			
Villages:					
Betula Beach	7	.....		
Breton	423	.....		
Crystal Springs	13	.....		
Edmonton Beach	20	.....		
Entwistle	411	354			
Gibbons	192	.....		
Itaska Beach	2	2			
Kapaswin	2	.....		
Lakeview	12	41			
Legal	524	457			
Ma-Me-O Beach	142	137			
Millett	403	427			
New Sarepta	184	.....		
Point Allison	6	.....		
Seba Beach	113	141			
Silver Beach	14	17			
Spruce Grove	465	309			
Thorsby	491	411			
Warburg	285	257			

POPULATION OF CENSUS DIVISIONS OF ALBERTA CLASSIFIED BY MUNICIPALITIES
FOR CENSUS YEARS, 1956 and 1961 (Continued)

Division and Subdivision	Total		Division and Subdivision	Total	
	1961	1956		1961	1956
Division No. 12	47,310	44,947	Div. No. 14—Continued:		
85. I.D.—D.A.	338	348	Towns:		
86. St. Paul	7,421	7,979	Edson	3,198	2,560
87. Bonnyville	10,209	10,058	Hinton	3,529	.....
101. I.D.—D.A.	1,951	2,039	Villages		
102. I.D.—D.A.	4,840	5,066	Evansburg	452	358
121. I.D.—D.A.	323	197	Whitecourt	1,054	.....
143. I.D.—D.A.	1,650	879	Wildwood	479	547
Smoky Lake County					
No. 13	4,913	5,517			
Wood Buffalo					
National Park	86	143	Division No. 15	76,884	70,417
Indian Reserves	3,229	3,530	110. I.D.—D.A.	552	346
Towns:			111. I.D.—D.A.	353	241
Bonnyville	1,736	1,495	123. I.D.—D.A.	279	2
Cold Lake	1,307	1,097	124. I.D.—D.A.	3,108	3,216
Grand Centre	1,493	.....	125. I.D.—D.A.	3,212	3,155
Lac La Biche	1,314	967	126. I.D.—D.A.	2,579	2,427
McMurray	1,186	1,110	128. I.D.—D.A.	769	947
St. Paul	2,823	2,229	129. I.D.—D.A.	577	877
Villages:			130. Smoky River	4,094	3,955
Bonnyville Beach .....	.....	.....	131. I.D.—D.A.	2,403	2,413
Elk Point	692	594	132. I.D.—D.A.	2,646	3,133
Glendon	315	314	133. Spirit River	1,318	1,413
Smoky Lake	626	563	134. I.D.—D.A.	2,505	2,633
Vilna	400	374	135. Peace	2,053	1,732
Warspite	153	159	136. Fairview	1,917	1,885
Waskatenau	305	289	137. I.D.—D.A.	174	127
			138. I.D.—D.A.	3,194	3,489
Division No. 13	45,431	45,033	139. I.D.—D.A.	2,772	2,635
92. Westlock	7,864	8,731	144. I.D.—D.A.	212	26
93. Lac Ste. Anne	7,151	6,892	145. I.D.—D.A.	144	136
107. I.D.—D.A.	1,571	1,502	146. I.D.—D.A.	662	634
108. I.D.—D.A.	636	781	147. I.D.—D.A.	3,189	2,500
122. I.D.—D.A.	613	557	148. I.D.—D.A.	86	.....
Thorhild County No. 7.	5,096	5,596	149. I.D.—D.A.	339	122
Barrhead County No. 11	5,759	5,944	Grande Prairie		
Athabasca County			County No. 1	8,803	8,899
No. 12	6,792	7,367	Indian Reserves	3,022	3,032
Indian Reserves	432	332	Cities:		
Towns:			Grande Prairie	8,352	6,302
Athabasca	1,487	1,293	Towns:		
Barrhead	2,286	1,610	Beaverlodge	897	768
Mayerthorpe	663	563	Fairview	1,506	1,260
Redwater	1,135	1,065	Fahler	741	802
Westlock	1,838	1,136	Grimshaw	1,085	904
Villages:			High Prairie	1,756	1,743
Alberta Beach	135	127	Manning	896	726
Boyle	346	304	McLennan	1,078	1,092
Castle Island .....	.....	.....	Peace River	2,543	2,034
Clyde	259	221	Spirit River	890	743
Fort Assiniboine	216	.....	Swan Hills	643	.....
Island Lake	12	.....	Valleyview	1,077	973
Onoway	302	190	Villages:		
Radway	183	203	Berwyn	347	342
Sandy Beach	4	.....	Donnelly	289	265
Sangudo	325	331	Girouxville	313	300
Sunset Point	14	.....	Hines Creek	398	360
Thorhild	312	288	Hythe	449	481
			Kinuso	323	306
Division No. 14	19,282	15,846	Nampa	271	.....
78. I.D.—D.A.	3,484	3,444	Sexcroft	500	424
79. I.D.—D.A.	667	2,234	Sexsmith	531	345
95. I.D.—D.A.	3,638	4,696	Slave Lake	468	.....
96. I.D.—D.A.	430	314	Wanham	251	.....
109. I.D.—D.A.	2,351	1,693	Wembley	303	272

TABLE 1—GENERAL SUMMARY OF VITAL STATISTICS FOR CENSUS DIVISIONS, ALBERTA, 1961

CENSUS DIVISIONS	Live Births			Live births in hospitals		Illegitimate births		Stillbirths		Marriages	Excess births over deaths	Total Deaths	Hospital deaths	Infant deaths		Neo-natal deaths		Maternal deaths		
	Total	Male	Female	M	F	M	F	M	F					M	F	M	F		M	F
ALBERTA	38914	19889	19025	18749	1273	1157	174	198	10474	30051	8863	6301	612	432	418	289	9			
Division No. 1	1016	546	470	537	23	23	7	8	330	719	297	212	14	8	11	6				
Division No. 2	2192	1119	1073	1088	36	31	10	11	618	1697	495	358	23	23	17	13				
Division No. 3	638	461	477	453	49	52	1	6	288	708	230	169	13	8	8	5				
Division No. 4	392	201	191	196	185	8	5	3	57	298	94	70	5	3	2	2				
Division No. 5	918	469	449	459	34	18	3	6	199	665	253	187	8	12	4	6				
Division No. 6	9507	4782	4725	4770	310	302	35	46	2521	7340	2167	1458	130	92	99	63	1			
Division No. 7	1071	541	530	539	24	14	10	2	284	735	336	241	22	9	15	6				
Division No. 8	2248	1150	1098	1133	1091	60	14	12	560	1696	552	423	41	22	29	17				
Division No. 9	468	232	226	223	224	27	4	4	163	338	130	103	15	8	10	4				
Division No. 10	1580	843	787	833	735	24	18	5	525	936	644	426	27	20	16	17	3			
Division No. 11	12530	6433	6111	6096	390	347	53	61	3662	10134	2396	1779	183	122	132	90	1			
Division No. 12	1625	833	790	791	84	82	8	10	333	1290	335	227	35	32	17	17				
Division No. 13	1102	543	529	531	548	31	34	7	280	801	301	205	20	20	12	13				
Division No. 14	685	351	324	326	246	327	23	16	102	563	122	80	13	10	8	8				
Division No. 15	2642	1397	1245	1290	1155	136	128	17	552	2131	511	363	63	43	38	22	1			

DIVISION OF VITAL STATISTICS

TABLE 2—GENERAL SUMMARY OF VITAL STATISTICS FOR INCORPORATED URBAN PLACES OF 1,000 POPULATION AND OVER, ALBERTA, 1961

CITY, TOWN OR VILLAGE	Live Births			Live births in hospitals		Illegitimate		Stillbirths		Marriages	Excess births	Total deaths	Hospital deaths	Infant deaths		Neo-natal deaths		Maternal deaths		
	Total	Male	Female	M	F	M	F	M	F					M	F	M	F		M	F
Athabasca	50	31	19	31	19	2	2	2	1	1	27	23	12	1	1	1	1	1		
Barhead	74	30	44	30	43	3	3	3	1	1	57	28	18	2	2	3	2	2		
Beverly	350	171	158	171	158	10	10	6	1	1	300	30	22	6	6	4	3	3		
Blainmore	44	23	36	23	36	1	1	1	1	1	22	16	11	1	1	1	1	1		
Bonnyville	31	16	15	16	15	1	1	1	5	1	30	50	10	1	1	1	1	1		
Bow Island	271	145	123	144	128	6	4	4	1	1	35	247	16	5	2	3	3	3		
Bowness	76	42	37	42	37	1	1	1	1	1	46	33	27	4	5	4	4	4		
Brooks	7556	3788	3768	3781	3761	279	263	2	24	38	5822	1734	1167	98	70	77	52	1		
Calgary	184	105	72	105	79	2	2	2	1	1	79	4	180	2	1	1	1	1		
Camrose	184	105	72	105	79	2	2	2	1	1	79	4	180	2	1	1	1	1		
Cardston	81	44	37	44	37	2	2	2	1	1	136	58	59	2	1	1	1	1		
Clareholm	57	19	18	19	18	1	1	1	1	1	23	21	17	1	1	1	1	1		
Clareholm	57	19	18	19	18	1	1	1	1	1	23	21	17	1	1	1	1	1		
Coaldale	45	23	20	23	22	1	1	1	1	1	30	39	18	1	1	1	1	1		
Cold Lake	44	18	26	18	26	1	1	1	1	1	27	36	9	2	1	1	1	1		
Coleman	34	18	16	18	16	1	1	1	1	1	12	24	20	2	1	1	1	1		
Devon	33	17	16	17	16	1	1	1	1	1	5	32	2	1	1	1	1	1		
Dusbury	206	97	109	97	109	1	1	1	2	1	34	192	14	2	2	2	2	2		
Drayton Valley	103	55	48	55	48	4	4	4	2	2	66	37	31	7	1	3	1	1		
Drumheller	8572	4401	4171	4397	4169	297	269	2	36	50	6846	1726	1336	125	82	93	59	1		
Edmonton	116	59	57	59	57	6	6	6	2	2	53	81	35	2	3	1	1	1		
Edson	151	31	20	31	20	2	2	2	1	1	28	33	15	1	1	1	1	1		
Fairview	431	215	216	214	215	4	4	4	2	2	43	398	33	2	1	1	1	1		
Forest Lawn	68	36	32	36	31	1	1	1	1	1	20	43	25	5	6	4	4	4		
Fort Macleod	91	50	41	50	41	3	3	3	1	1	25	75	17	1	1	1	1	1		
Fort Saskatchewan	363	194	169	194	169	13	4	4	1	1	135	292	71	9	8	5	5	5		
Grande Prairie	73	38	35	38	35	1	1	1	2	2	44	29	22	2	1	1	1	1		
Hanna	70	39	31	39	30	6	3	3	1	1	35	44	26	2	4	6	2	2		
High Prairie	24	23	24	23	24	1	1	1	1	1	32	9	38	2	1	1	1	1		
High River	81	44	37	43	37	3	3	3	1	1	32	50	31	2	1	2	1	1		
Innisfail	1102	554	588	554	586	22	26	26	4	4	1034	108	81	9	14	7	11	1		
Jasper Place	67	35	32	35	32	4	5	5	2	2	42	56	41	2	1	1	1	1		
Lacombe	97	35	32	35	32	3	3	3	1	1	36	25	16	2	1	1	1	1		
Leduc	999	481	458	480	457	23	14	14	4	3	696	243	187	10	11	7	7	7		
Lethbridge	118	66	50	68	50	2	2	2	1	1	61	99	19	1	2	1	1	1		
Lloydminster	29	16	14	16	14	1	1	1	1	1	13	19	10	1	1	1	1	1		
Magrath	29	16	14	16	14	1	1	1	2	2	13	19	10	1	1	1	1	1		
McLennan	19	11	8	11	8	3	5	5	1	1	8	11	8	3	1	1	1	1		
McMurray	19	11	8	11	8	3	5	5	1	1	8	11	8	3	1	1	1	1		

DIVISION OF VITAL STATISTICS

TABLE 3—DEATHS BY PLACE OF OCCURRENCE AND PLACE OF RESIDENCE, 1961

PLACE OF OCCURRENCE	Total (Occurrence)	PLACE OF RESIDENCE													
		Nfld.	P.E.I.	N.S.	N.B.	Quebec	Ontario	Manitoba	Sask.	Alberta	B.C.	Yukon	N.W.T.	U.S.A.	Other
Total Residence	141672	3038	978	6135	4695	37044	50997	7369	7107	8863	14403	94	262	613	74
Newfoundland	3034	3010	1	1	1	6	5	1	.....	.....	.....	.....	.....	.....	6
Prince Edward Island	960	945	3	3	3	1	.....	.....	.....	.....	.....	.....	.....	.....	6
Nova Scotia	6155	7	14	6065	25	8	1	.....	.....	.....	.....	.....	.....	.....	24
New Brunswick	4734	3	2	18	4597	47	3	.....	.....	.....	.....	.....	.....	.....	51
Quebec	36841	7	6	11	28	36536	138	2	.....	.....	.....	.....	.....	.....	91
Ontario	51234	7	4	23	14	317	50431	28	19	17	10	.....	.....	.....	321
Manitoba	7407	.....	.....	2	1	3	53	7248	47	3	18	.....	.....	.....	5
Saskatchewan	7056	.....	1	.....	.....	2	16	27	6942	43	15	.....	.....	.....	13
Alberta	8910	1	.....	3	.....	10	17	13	51	8715	59	7	.....	.....	19
British Columbia	14377	.....	.....	2	2	6	15	11	21	42	14209	4	.....	.....	54
Yukon	94	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	83	.....	.....	7
Northwest Territories	246	.....	.....	.....	1	3	2	.....	.....	.....	6	.....	230	.....	3
United States	624	3	6	5	23	105	307	35	25	29	86	.....	.....	.....	.....

TABLE 4—DEATHS AND HOSPITAL DEATHS BY OCCURRENCE AND RESIDENCE FOR CENSUS DIVISIONS, ALBERTA, 1961

CENSUS DIVISIONS	TOTAL DEATHS				DEATHS IN HOSPITAL			
	Total by Occurrence	Total by Residence	By Occurrence: Residence Elsewhere	By Residence: Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence: Residence Elsewhere	By Residence: Occurrence Elsewhere
ALBERTA	8910	8863	195	148	6344	6301	133	90
Division No. 1	283	297	21	35	199	212	14	27
Division No. 2	503	495	59	51	367	358	46	37
Division No. 3	187	230	24	67	124	169	12	57
Division No. 4	89	94	16	21	67	70	13	16
Division No. 5	178	253	16	91	114	187	9	82
Division No. 6	2257	2167	236	146	1552	1458	196	102
Division No. 7	272	336	17	81	179	241	12	74
Division No. 8	582	552	122	92	457	423	108	74
Division No. 9	132	130	35	33	92	103	18	29
Division No. 10	576	644	62	130	350	426	46	122
Division No. 11	2818	2396	535	113	2212	1779	498	65
Division No. 12	277	335	19	77	170	227	13	70
Division No. 13	231	301	31	101	134	205	22	93
Division No. 14	82	122	11	51	36	80	2	46
Division No. 15	443	511	17	85	291	363	3	75

TABLE 5—DEATHS AND HOSPITAL DEATHS BY OCCURRENCE AND RESIDENCE IN URBAN PLACES OF 1,000 POPULATION AND OVER, ALBERTA, 1961

CITY, TOWN OR VILLAGE	TOTAL DEATHS					DEATHS IN HOSPITAL					
	Total by Occurrence	Total by Residence	By Occurrence: Residence	By Occurrence: Elsewhere	By Residence: Occurrence	Total by Occurrence	Total by Residence	By Occurrence: Residence	By Occurrence: Elsewhere	By Residence: Occurrence	By Residence: Elsewhere
Athabasca	44	23	27	6	30	12	24	6			
Barrhead	31	20	15	4	30	18	15	3			
Beverly	5	30	2	27	22	22	22				
Blairmore	4	16	12	12	11	11	11				
Bonnyville	19	10	13	4	19	9	13	3			
Bow Island	16	13	9	6	13	9	8	4			
Bowness	14	27	5	18	16	16	16				
Brooks	44	33	18	7	39	27	17	5			
Calgary	1948	1734	362	148	1391	1167	316	92			
Camrose	247	180	73	6	130	59	72	1			
Cardston	21	23	7	9	19	17	7	5			
Claresholm	35	21	18	4	34	18	18	2			
Coaldale	18	18	5	5	15	15	5	5			
Cold Lake	17	9	12	4	15	5	12	2			
Coleman	1	20	19	19	19	19	19				
Devon	7	2	5	5	5	1	4				
Didsbury	27	18	13	4	21	12	13	4			
Drayton Valley	11	14	5	8	7	9	4	6			
Drumheller	66	37	36	7	62	31	36	5			
Edmonton	2387	1726	793	132	2023	1336	758	71			
Edson	26	35	9	18	22	26	9	13			
Fairview	33	18	24	9	32	15	24	7			
Forest Lawn	12	33	3	24	21	21	21				
Fort Macleod	26	25	8	7	20	17	7	4			
Fort Saskatchewan	6	16	2	12	11	11	11				
Grande Prairie	103	21	42	10	93	61	39	7			
Hanna	51	29	26	4	44	22	25	3			
High Prairie	50	26	30	6	44	20	28	4			
High River	73	38	42	7	63	29	39	5			
Innisfail	50	31	27	8	44	23	25	4			
Jasper Place	27	108	6	87	1	81	80				
Lacombe	57	41	28	12	52	34	25	7			
Leduc	9	25	1	17	16	16	16				
Lethbridge	272	243	65	36	227	187	62	22			
Lloydminster	5	19	1	15	15	15	15				
Magrath	9	10	2	3	8	8	2	2			
McLennan	16	10	10	4	15	8	10	3			
McMurray	10	8	3	1	6	4	3	1			
Medicine Hat	241	226	41	26	186	164	38	16			
Nanton	4	16	12	12	12	12	12				
Olds	49	32	25	8	44	27	23	6			
Peace River	31	24	16	9	24	14	15	5			
Pincher Creek	38	33	16	11	33	25	15	7			
Ponoka	132	44	97	9	125	37	96	8			
Raymond	36	23	14	1	29	15	14				
Redcliff	3	14	11	11	10	10	10				
Red Deer	149	131	42	24	127	104	39	16			
Redwater	2	4	2	2	1	1	1				
Rocky Mountain House	26	18	17	9	23	15	15	7			
St. Albert	44	64	20	20	16	16	16				
St. Paul	51	34	20	3	43	27	18	2			
Stettler	60	31	35	6	54	24	34	4			
Stony Plain	7	25	1	19	17	17	17				
Sylvan Lake	4	9	2	7	7	7	7				
Taber	46	24	24	2	36	17	21	2			
Three Hills	22	11	16	5	19	8	15	4			
Vegreville	57	29	33	5	52	25	32	5			
Vermilion	31	30	11	10	26	24	11	9			
Vulcan	19	17	9	7	13	12	7	6			
Wainwright	41	33	15	7	26	18	14	6			
Westlock	52	17	42	7	50	13	42	5			
Wetaskiwin	80	62	29	11	64	47	27	10			

DIVISION OF VITAL STATISTICS

TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS
(INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1961

CAUSE OF DEATH (Intermediate List)	SEX	Total	Division No. 1	Division No. 2	Division No. 3	Division No. 4	Division No. 5	Division No. 6	Division No. 7	Division No. 8	Division No. 9	Division No. 10	Division No. 11	Division No. 12	Division No. 13	Division No. 14	Division No. 15
ALL CAUSES	Total	8863	297	495	230	94	253	2167	336	552	130	644	2396	335	301	122	511
	Male	5695	190	310	138	68	167	1335	228	360	93	395	1551	218	205	87	350
	Female	3168	107	185	92	26	86	832	108	192	37	249	845	117	96	35	161
I. INFECTIVE AND PARASITIC DISEASES	Total	86	1	4	5	.....	2	22	2	6	.....	2	27	6	3	.....	6
	Male	53	.....	3	4	.....	1	15	2	3	.....	2	17	3	1	.....	2
	Female	33	1	1	1	.....	1	7	.....	3	.....	.....	10	3	2	.....	4
A 1 Tuberculosis of respiratory system	Male	20	.....	1	.....	.....	.....	9	1	1	.....	.....	5	2	1	.....	.....
	Female	7	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
A 2 Tuberculosis of meninges and central nervous system	Male	1	.....	.....	1	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....
	Female	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 3 Tuberculosis of intestines peritoneum and mesenteric glands	Male	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
	Female	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 5 Tuberculosis, all other forms	Male	2	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
	Female	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
A 6 Congenital syphilis	Male	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 9 General paralysis of insane	Male	4	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....
	Female	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 10 All other syphilis	Male	2	.....	1	.....	.....	.....	.....	2	.....	.....	1	.....	.....	.....	.....	.....
	Female	2	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....
A 16 Dysentery, all forms	Male	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 17 Scarlet fever	Male	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2
	Female	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 18 Streptococcal sore throat	Male	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 20 Septicaemia and pyaemia	Male	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....
A 22 Whooping cough	Male	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 23 Meningococcal infections	Male	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 28 Acute poliomyelitis	Male	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
	Female	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 29 Acute infectious encephalitis	Male	3	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	Male	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 32 Measles	Male	3	.....	.....	2	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
	Female	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 34 Infectious hepatitis	Male	3	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	7	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....
A 35 Rabies	Male	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 42 Other diseases due to helminths	Male	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
A 43 All other diseases classified as infective and parasitic	Male	4	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
	Female	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
II. NEOPLASMS	Total	1360	45	79	32	9	42	331	55	90	12	100	422	42	51	14	66
	Male	845	22	45	17	7	33	191	33	64	7	61	248	29	38	10	40
	Female	545	23	34	15	2	9	140	22	26	5	39	174	13	13	4	26
A 44 Malignant neoplasm of buccal cavity and pharynx	Male	13	.....	.....	2	.....	.....	1	.....	.....	.....	.....	1	5	.....	.....	.....
	Female	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 45 Malignant neoplasm of oesophagus	Male	13	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
	Female	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 46 Malignant neoplasm of stomach	Male	123	.....	6	5	1	3	25	5	10	.....	.....	9	38	9	5	7
	Female	39	1	4	.....	.....	.....	2	10	.....	.....	.....	1	9	2	3	1
A 47 Malignant neoplasm of intestine, except rectum	Male	69	3	5	2	1	3	15	5	8	.....	.....	2	5	17	2	1
	Female	52	.....	3	.....	.....	.....	2	16	2	.....	.....	9	16	.....	.....	.....
A 48 Malignant neoplasm of rectum	Male	34	.....	.....	.....	.....	.....	4	9	1	.....	.....	.....	13	.....	.....	.....
	Female	14	1	2	.....	.....	.....	5	2	1	.....	.....	1	1	.....	.....	.....
A 49 Malignant neoplasm of larynx	Male	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	2	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....
A 50 Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	Male	150	5	13	.....	.....	.....	6	34	4	7	2	6	49	4	7	5
	Female	17	4	1	2	.....	.....	.....	3	.....	1	1	.....	4	1	.....	.....
A 51 Malignant neoplasm of breast	Male	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	110	4	8	4	.....	.....	1	33	3	3	.....	10	36	1	1	5
A 52 Malignant neoplasm of cervix uteri	Male	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	31	2	1	1	1	.....	7	.....	1	2	1	13	.....	1	.....	1
A 53 Malignant neoplasm of other and unspecified parts of uterus	Male	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	21	2	1	1	4	1	2	4	2	1
A 54 Malignant neoplasm of prostate	Male	99	4	3	2	3	5	22	10	6	1	7	27	1	3	5

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TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS (INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1961—Continued

CAUSE OF DEATH (Intermediate List)	SEX	Total	Division No. 1	Division No. 2	Division No. 3	Division No. 4	Division No. 5	Division No. 6	Division No. 7	Division No. 8	Division No. 9	Division No. 10	Division No. 11	Division No. 12	Division No. 13	Division No. 14	Division No. 15
A 55 Malignant neoplasm of skin	Male	11	1							2				5	1		1
	Female	6						1		2				3			
A 56 Malignant neoplasm of bone and connective tissue	Male	6	1											2	1		
	Female	11		3				2				1		3			1
A 57 Malignant neoplasm of all other and unspecified sites	Male	207	8	9	6	2	6	50	5	12	2	21	57	8	10	3	8
	Female	171	8	8	4	1	3	42	11	10	1	7	60	5	2	1	8
A Other digestive organs (155-159)	Male	90	4	3	3			3	17	2	5	1	9	3	3	7	2
	Female	69	2	4	2	1	2	17	4	4		4	31	1	2		3
B Other respiratory organs (160, 164, 165)	Male	3							2			1					
	Female																
C Urinary organs (180, 181)	Male	49	3	3	1	1	1	12	1	2	1	5	13	2		1	3
	Female	21	3	1	1			4	3	1		1	7				
D Brain and other parts of nervous system (193)	Male	31		3	1		2	9	2	1		3	5	2	1	1	1
	Female	17		1				5					9	1		1	
E Other	Male	34	1		1	1		10		4		3	8	1	2	1	2
	Female	64	3	2	1		1	16	4	5	1	2	21	3			5
A 58 Leukaemia and aleukaemia	Male	49	1	4				2	11	1	8		5	11	1	2	1
	Female	26			2	2		1	3	1	2		4	8	3		
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	Male	54		1			2	12	1	6		4	18	2	5	1	2
	Female	20		1				5	1	2	1	2	7		1		
A Hodgkin's disease (201)	Male	15						5		2		1	5			1	1
	Female	4						1					2				
B Other	Male	39		1			2	7	1	4		3	13	2	5		1
	Female	16		1				4	1	2	1	2	5				
A 60 Benign neoplasms and neoplasms of unspecified nature	Male	14		2			1	3				1	2	1	1		3
	Female	16			1			5	1			1	6		1		1
III, IV. ALLERGIC DISORDERS AND ENDOCRINE METABOLIC AND BLOOD DISEASES	Total	224	11	11	8	4	6	53	9	9	4	13	61	13	6	2	14
	Male	112	3	6	2	4	3	24	2	7	2	6	34	4	4	1	10
	Female	112	8	5	6		3	29	7	2	2	7	27	9	2	1	4
A 61 Nontoxic goitre	Male																
	Female	2										1					1
A 62 Thyrotoxicosis with or without goitre	Male	1											1				
	Female	1												1			
A 63 Diabetes mellitus	Male	63	3	2	1	2		14	2	3	2	5	18	3	3	1	4
	Female	71	5	4	4		3	15	6	1	1	3	20	4	1	1	3
A 64 Avitaminosis and other deficiency states	Male	3						2					1				
	Female	4	1					3									
A 65 Anaemias	Male	15		2	1		2	3		2			4				1
	Female	6	1		1			1					1	1	1		
A 66 Allergic disorders: all other endocrine, metabolic and blood diseases	Male	30		2		2	1	5		2			1	10	1	1	5
	Female	28	1	1	1			10	1	1	1	3	6	3			
V. MENTAL, PSYCHONEUROTIC, AND PERSONALITY DISORDERS	Total	16				3	1	6					5				1
	Male	15				3	1	5					5				1
	Female	1						1									
A 67 Psychoses	Male	2					1	1									
	Female	1						1									
A 68 Psychoneuroses and disorders of personality	Male	12				3		4					4				1
	Female																
A 69 Mental deficiency	Male	1											1				
	Female																
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	Total	1117	44	55	30	12	39	328	39	82	13	85	258	30	35	13	54
	Male	631	21	33	17	8	22	178	25	42	8	51	143	19	24	9	31
	Female	486	23	22	13	4	17	150	14	40	5	34	115	11	11	4	23
A 70 Vascular lesions affecting central nervous system	Male	564	17	32	15	8	20	159	21	37	8	49	131	17	20	8	22
	Female	444	23	18	11	4	16	138	13	37	5	33	105	10	10	3	18
A 71 Nonmeningococcal meningitis	Male	6						1									1
	Female	6		1	1			2		1		1					
A 72 Multiple sclerosis	Male	11	1					2	2				5				1
	Female	7						5					2				
A 73 Epilepsy	Male	14		1				4		3			1	2			3
	Female	8						1	1	1		1	1	1			2
A 77 Otitis media and mastoiditis	Male	2															1
	Female	2															1
A 78 All other diseases of the nervous system and sense organs	Male	36	3		2		1	13	2	2		1	4		4		4
	Female	19		3	1			4	1	1			6		1		2
VII. DISEASES OF THE CIRCULATORY SYSTEM	Total	2959	110	182	72	40	96	595	128	201	51	232	869	101	112	36	134
	Male	1989	75	115	47	30	65	368	86	136	41	140	605	69	76	30	106
	Female	970	35	67	25	10	31	227	42	65	10	92	264	32	36	6	28
A 79 Rheumatic fever	Male	1										1					
	Female	4		1									2				

TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS (INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1961—Continued

CAUSE OF DEATH (Intermediate List)	SEX	Total	Division No. 1	Division No. 2	Division No. 3	Division No. 4	Division No. 5	Division No. 6	Division No. 7	Division No. 8	Division No. 9	Division No. 10	Division No. 11	Division No. 12	Division No. 13	Division No. 14	Division No. 15	
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERIUM	Total	9			1			1			1	3	1		1		1	
A115 Sepsis of pregnancy, childbirth and the puerperium	Female	3									1	1					1	
A116 Toxaemias of pregnancy and the puerperium	Female	1											1					
A117 Haemorrhage of pregnancy and childbirth	Female	1			1													
A120 Other complications of pregnancy, childbirth and the puerperium	Female	4						1				2				1		
XII, XIII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM	Total	36	1		1		2	12		3			10	1			2	4
	Male	17	1		1		1	4		2			3	1			2	2
	Female	19					1	8		1			7					2
A121 Infections of skin and subcutaneous tissue	Male	3					1						1					1
	Female	1																1
A122 Arthritis and spondylitis	Male	8	1		1					1			1	1			2	1
	Female	11					1	5					5					
A123 Muscular rheumatism and rheumatism unspecified	Male	1						1										
	Female																	
A124 Osteomyelitis and periostitis	Male	2						1					1					
	Female																	
A125 Ankylosis and acquired musculoskeletal deformities	Male																	1
	Female	1																
A126 All other diseases of skin and musculoskeletal system	Male	3						2		1								
	Female	6						3		1			2					
XIV. CONGENITAL MALFORMATIONS	Total	224	6	10	6		4	65	11	11	3	10	66	14	4	3	11	
	Male	142	3	8	5		1	38	8	6	3	6	42	9	3	3	7	
	Female	82	3	2	1		3	27	3	5		4	24	5	1		4	
A127 Spina bifida and meningocele	Male	17		2	1			5	2		1		5		1			
	Female	4						2									2	
A128 Congenital malformations of circulatory system	Male	61	2	2	3			15	1	6	1	1	21	3	1	1	4	
	Female	37	3	2	1		3	11	2	4		1	6	3			1	
A129 All other congenital malformations	Male	64	1	4	1		1	18	5		1	5	16	6	1	2	3	
	Female	41						14	1	1		3	18	2	1		1	
XV. CERTAIN DISEASES OF EARLY INFANCY	Total	586	12	26	9	6	10	123	13	39	13	28	186	27	23	14	57	
	Male	347	8	13	5	3	5	80	9	25	9	13	110	12	11	6	38	
	Female	239	4	13	4	3	5	43	4	14	4	15	76	15	12	8	19	
A130 Birth injuries	Male	45			1	1		12	1	5		2	16		2	2	3	
	Female	48	2			1	1	8	3	5	2	3	11	5	1	2	4	
A131 Postnatal asphyxia and atelectasis	Male	95	3	5	1	1	1	17	2	6	1	4	36	3	3	1	11	
	Female	50	1	2	1		3	5		2	1	4	15	2	9	1	4	
A132 Infections of the newborn	Male	23	1	1				6	2	2		1	5		1	1	3	
	Female	14	1					2	1	1			4	1			2	
A133 Haemolytic disease of newborn	Male	7		1				1					1		1	1	2	
	Female	10						2			1	1	3				1	
A134 All other defined diseases of early infancy	Male	15	1					4		1	1		4				4	
	Female	6				1					1	1	2					
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	Male	162	3	6	3	1	4	40	4	11	6	7	48	9	4	1	15	
	Female	111		11	3	1	1	26		5		6	42	5	2	4	5	
XVI. SYMPTOMS, SENILITY, AND ILL-DEFINED CONDITIONS	Total	310	2	2	1		5	226	3	1	3	21	30	4	2	2	8	
	Male	218	2	2	1		4	167	3	1	2	13	17	1	1	2	2	
	Female	92					1	59			1	8	13	3	1		6	
A136 Senility without mention of psychosis	Male	59	1					48	1		1	1	6	1				
	Female	20						7					6	1	1		5	
A137 Ill-defined and unknown causes	Male	159	1	2	1		4	119	2	1	1	12	11		1	2	2	
	Female	72					1	52			1	8	7	2			1	
EXVII. ACCIDENTS, POISONINGS, AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)	Total	841	24	64	31	8	10	181	39	51	11	49	199	46	28	20	80	
	Male	654	22	45	22	5	6	139	33	42	8	37	153	36	23	16	67	
	Female	187	2	19	9	3	4	42	6	9	3	12	46	10	5	4	13	
AE138 Motor vehicle accidents	Male	217	7	14	8	1		35	13	15	2	21	52	9	11	6	23	
	Female	56		6	5	2	1	13	1	3		3	14	3		3	2	

DIVISION OF VITAL STATISTICS

TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS
(INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1961—Continued

CAUSE OF DEATH (Intermediate List)	SEX	Total	Division No. 1	Division No. 2	Division No. 3	Division No. 4	Division No. 5	Division No. 6	Division No. 7	Division No. 8	Division No. 9	Division No. 10	Division No. 11	Division No. 12	Division No. 13	Division No. 14	Division No. 15
A Traffic accidents	Male	213	7	14	8	1		34	13	13	2	21	52	9	11	6	22
	Female	54		6	5	2	1	12	1	3		3	14	2		3	2
B Non-traffic accidents	Male	4						1		2							1
	Female	2												1			
AE139 Other transport accidents	Male	35	1		3			10					9	8			4
	Female	2											2	2			
A Submersion of occupant of small boat (850)	Male	9											4	2			3
	Female																
C Other	Male	26	1		3			10					5	6			1
	Female	2															4
AE140 Accidental poisoning	Male	27	1	3	1			7				1	8	1		1	4
	Female	6		1	1			2									1
AE141 Accidental falls	Male	55	2	7	2		1	17	3	4		3	11		2		3
	Female	37	2	3	1		1	7	3	3		3	11				3
AE142 Accident caused by machinery	Male	32		1				4	3	7		3	7				4
	Female	3															
AE143 Accident caused by fire and explosion of combustible material	Male	33	2	1				11	2	1			10		3		3
	Female	16		1				7				3	3	1			1
AE144 Accident caused by hot substance, corrosive liquid, steam, and radiation	Male	3						2						1			
	Female																
AE145 Accident caused by firearm	Male	16			1			3	1	1			5	1	1	1	2
	Female																
AE146 Accidental drowning and submersion	Male	41	1	4	2	1		7	2	4			7	6		2	5
	Female	18		4	1	1	1	2					6	1		2	2
AE147 All other accidental causes	Male	83	2	6	3	3	3	9	5	4	5	3	18	8	2	3	9
	Female	24		2	1			1	2	2			6	2	5		3
AE148 Suicide	Male	103	5	7	1		2	31	3	6	1	6	25	2	1	3	10
	Female	16		1			1	4					2				1
AE149 Homicide and injury purposely inflicted by other persons (not in war)	Male	9	1	2	1			3	1				1				
	Female	9						6			1	1		1			
NXVII. ACCIDENTS, POISONINGS, AND VIOLENCE (CLASSIFICATION ACCORDING TO NATURE OF INJURY)	Total	841	24	64	31	8	10	181	39	51	11	49	199	46	28	20	80
	Male	654	22	45	22	5	6	139	33	42	8	37	153	36	23	16	67
	Female	187	2	19	9	3	4	42	6	9	3	12	46	10	5	4	13
AN138 Fracture of skull	Male	121	4	8	6	2		22	1	7		6	35	5	10	4	11
	Female	31		2	3	1		8	1	3		3	5	3		2	
AN139 Fracture of spine and trunk	Male	40	1	2	1			2	5	2	1	6	6	2	2	3	7
	Female	7			1					1			2				2
AN140 Fracture of limbs	Male	30	1	3	1		1	9	1	1		3	9		1		1
	Female	32	2	2	1		1	6	3	3		3	10				1
AN141 Dislocation without fracture	Male																1
	Female	1															
AN143 Head injury (excluding fracture)	Male	90	4	8	4			18	5	9	3	7	19	2	3	2	6
	Female	14		2	1			5			1	1	1	2			1
AN144 Internal injury of chest, abdomen, and pelvis	Male	131	6	6	4	1	1	33	9	10	2	7	26	6	3	3	14
	Female	23		3	1	1	1	7	1		1		7	1			
AN145 Laceration and open wounds	Male	14			1		1	2		2			6				2
	Female	2											1				1
AN146 Superficial injury, contusion and crushing with intact skin surface	Male	2			2												
	Female	1						1									
AN147 Effects of foreign body entering through orifice	Male	13		3			1				1	1	5				2
	Female	12								1			4	1	4		3
AN148 Burns	Male	42	2	1				16	3	2			5	7	3		3
	Female	11		1				6				2	1	1			
AN149 Effects of poisons	Male	52	1	4	1			16	1	1		3	17	1		1	6
	Female	18		1	1			4				3	7				2
AN150 All other and unspecified effects of external causes	Male	119	3	10	3	2	2	21	8	8	1	4	25	7	1	3	15
	Female	35		8	1	1	2	5	1	1	1		8	2	1		4

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1961—Continued

CAUSE OF DEATH (Intermediate List)	SEX	Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Red Deer	Total urban places 5000 + population	Urban places 1000-4999 pop.	Residual (rural)
A 56 Malignant neoplasm of bone and connective tissue	Male	6	2	1	1	1	1	1	1	1	1	4	2	2
	Female	11	1	2	2	1	1	1	1	1	1	5	2	4
A 57 Malignant neoplasm of all other and unspecified sites	Male	207	41	6	37	1	6	5	8	1	105	32	70	70
	Female	171	28	41	1	6	6	6	3	91	24	56	32	56
A Other digestive organs (155-159)	Male	90	13	2	19	4	2	4	1	45	13	32	32	32
	Female	69	12	14	2	4	2	1	35	12	22	22	22	22
B Other respiratory organs (160, 164, 165)	Male	3	1	1	1	1	1	1	1	1	1	2	1	1
	Female	3	1	1	1	1	1	1	1	1	1	2	1	1
C Urinary organs (180, 181)	Male	49	10	3	8	1	1	2	3	28	8	13	13	13
	Female	21	3	5	1	1	2	1	12	2	6	7	7	7
D Brain and other parts of nervous system (193)	Male	31	9	4	4	1	1	1	14	6	11	11	11	11
	Female	17	2	8	1	1	1	16	5	13	13	13	13	13
E Other	Male	34	8	6	1	2	2	1	36	10	21	21	21	21
	Female	64	11	14	1	2	1	24	6	19	19	19	19	19
A 58 Leukaemia and aleukaemia	Male	49	11	2	7	1	1	1	12	6	7	7	7	7
	Female	26	3	1	8	1	1	1	24	6	7	7	7	7
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	Male	54	7	1	16	1	1	1	24	9	21	21	21	21
	Female	20	4	7	1	1	1	11	4	5	5	5	5	5
A Hodgkin's disease (201)	Male	15	3	4	1	1	1	7	1	7	1	7	1	7
	Female	4	1	2	1	1	1	2	1	1	1	1	1	1
B Other	Male	39	4	1	12	1	1	17	8	14	14	14	14	14
	Female	16	4	5	1	1	1	9	3	4	4	4	4	4
A 60 Benign neoplasms and neoplasms of unspecified nature	Male	14	3	1	1	1	1	5	1	8	1	8	1	8
	Female	16	4	4	1	1	1	9	1	6	1	6	1	6
III, IV. ALLERGIC DISORDERS AND ENDOCRINE METABOLIC AND BLOOD DISEASES	Total	224	46	3	44	2	3	1	8	3	110	33	81	81
	Male	112	21	2	26	2	2	2	3	56	16	48	48	48
	Female	112	25	1	18	1	3	1	6	54	25	33	33	33
A 61 Nontoxic goitre	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1
A 62 Thyrotoxicosis with or without goitre	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 63 Diabetes mellitus	Male	63	13	2	13	1	2	1	31	7	25	25	25	25
	Female	71	13	2	13	1	2	1	34	17	20	20	20	20
A 64 Avitaminosis and other deficiency states	Male	3	2	1	1	1	1	1	3	1	1	1	1	1
	Female	4	3	1	4	1	1	1	7	1	8	8	8	8
A 65 Anaemias	Male	15	1	1	1	1	1	1	3	2	1	14	14	14
	Female	6	1	1	1	1	1	1	15	1	14	14	14	14
A 66 Allergic disorders; all other endocrine, metabolic and blood diseases	Male	30	5	8	1	1	1	1	15	1	14	14	14	14
	Female	28	8	1	4	1	1	1	14	5	9	9	9	9
V. MENTAL, PSYCHONEUROTIC AND PERSONALITY DISORDERS	Total	16	6	4	1	1	1	1	11	1	4	4	4	4
	Male	15	5	4	1	1	1	1	10	1	4	4	4	4
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 67 Psychoses	Male	2	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 68 Psychoneuroses and disorders of personality	Male	12	4	4	1	1	1	1	9	1	2	2	2	2
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 69 Mental deficiency	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	Total	1117	3	256	28	187	3	10	30	34	20	571	162	384
	Male	631	1	133	17	99	1	4	17	11	299	88	234	234
	Female	486	2	123	11	88	2	6	13	18	9	272	64	150
A 70 Vascular lesions affecting central nervous system	Male	564	1	119	17	91	1	4	17	13	8	271	89	204
	Female	444	2	112	11	81	1	6	11	18	9	251	61	132
A 71 Nonmeningococcal meningitis	Male	6	2	2	1	1	1	1	1	1	1	3	3	3
	Female	6	2	2	1	1	1	1	1	1	1	3	3	3
A 72 Multiple sclerosis	Male	11	2	2	1	1	1	1	1	1	1	7	4	4
	Female	7	5	1	1	1	1	1	1	1	1	6	1	1
A 73 Epilepsy	Male	14	2	1	1	1	1	1	3	6	2	6	6	6
	Female	8	1	1	1	1	1	1	2	1	5	2	1	5
A 77 Otitis media and mastoiditis	Male	2	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1
A 78 All other diseases of the nervous system and sense organs	Male	36	10	2	2	2	2	2	14	5	17	17	17	17
	Female	19	3	5	1	1	1	2	10	2	7	7	7	7
VII. DISEASES OF THE CIRCULATORY SYSTEM	Total	2959	5	467	50	654	24	29	91	87	39	1446	435	1078
	Male	1989	2	283	30	446	18	23	61	58	24	945	274	770
	Female	970	3	184	20	208	6	6	30	29	15	501	161	308
A 79 Rheumatic fever	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	4	2	2	2	2	2	2	2	2	2	3	3	3
A 80 Chronic rheumatic heart disease	Male	56	6	13	1	1	1	1	2	26	5	25	25	25
	Female	64	13	2	12	2	2	1	1	1	32	7	25	25

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1961—Continued

CAUSE OF DEATH (Intermediate List)	SEX	Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Red Deer	Total urban places 5000+ population	Urban places 1000-4999 pop.	Residual (rural)
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM	Total	9		1	1	1						3	2	4
A115 Sepsis of pregnancy, childbirth and the puerperium	Female	3											1	2
A116 Toxaemias of pregnancy and the puerperium	Female	1				1						1		
A117 Haemorrhage of pregnancy and childbirth	Female	1												1
A120 Other complications of pregnancy, childbirth and the puerperium	Female	4		1	1							2	1	1
XII, XIII. DISEASES OF THE SKIN AND MUSCULO-SKELETAL SYSTEM	Total	36	2	7		7		1			2	19	6	11
	Male	17		2		2					1	5	5	7
	Female	19	2	5		5		1			1	14	1	4
A121 Infections of skin and subcutaneous tissue	Male	3				1						1	1	1
	Female	1											1	
A122 Arthritis and spondylitis	Male	8											4	4
	Female	11	1	3		4						8		3
A123 Muscular rheumatism and rheumatism, unspecified	Male	1		1								1		
	Female													
A124 Osteomyelitis and periostitis	Male	2				1						1		1
	Female													
A125 Ankylosis and acquired musculoskeletal deformities	Male	1												1
	Female	3										1		1
A126 All other diseases of skin and musculoskeletal system	Male	6	1	2		1		1			1	6		
	Female													
XIV. CONGENITAL MALFORMATIONS	Total	224	1	46		44	3	6	3	5	4	112	31	81
	Male	142		28		28	2	2	3	3	4	70	19	53
	Female	82	1	18		16	1	4		2		42	12	28
A127 Spina bifida and meningocele	Male	17		2		4			1			7	4	6
	Female	4		2								2		2
A128 Congenital malformations of circulatory system	Male	61		12		14	2			2	4	34	4	23
	Female	37	1	4		4	1			2		12	9	16
A129 All other congenital malformations	Male	64		14		10		2	2	1		29	11	24
	Female	41		12		12		4				28	3	10
XV. CERTAIN DISEASES OF EARLY INFANCY	Total	586	4	98	2	128	10	14	12	6	15	289	101	196
	Male	347	4	61	1	78	6	5	5	5	10	175	59	113
	Female	239		37	1	50	4	9	7	1	5	114	42	83
A130 Birth injuries	Male	45	2	8	1	14					2	27	5	13
	Female	48		7		7	1	1			3	19	8	21
A131 Postnatal asphyxia and atelectasis	Male	95		12		26	1	3	3	3	2	50	18	27
	Female	50		4	1	11	1	1	2	1		21	10	19
A132 Infections of the newborn	Male	23		4		3	1					8	3	12
	Female	14		2		2	2					6	3	5
A133 Haemolytic disease of newborn	Male	7		1		1	1		1			4	1	2
	Female	10		2		1		2				5	1	4
A134 All other defined diseases of early infancy	Male	15		4		4	1			1	1	11	1	3
	Female	6		1		1						1	1	4
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	Male	162	2	32		30	2	2	1	1	5	75	31	56
	Female	111		22		28		5	5		2	62	19	30
XVI. SYMPTOMS, SENILITY, AND ILL-DEFINED CONDITIONS	Total	310	5	203	17	21	1	1	1			249	18	43
	Male	218	3	152	9	8	1	1	1			175	16	27
	Female	92	2	51	8	13						74	2	16
A136 Senility without mention of psychosis	Male	59		48		4						52	2	5
	Female	20	1	6		6						13		7
A137 Ill-defined and unknown causes	Male	159	3	104	9	4	1	1	1			123	14	22
	Female	72	1	45	8	7						61	2	9
EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)	Total	841	1	135	5	128	10	11	31	19	12	352	119	370
	Male	654	1	105	4	93	7	9	23	18	11	271	91	292
	Female	187		30	1	35	3	2	8	1	1	81	28	78
AE138 Motor vehicle accidents	Male	217		29	4	30	6	6	7	6	7	95	25	97
	Female	56		9		10	1	1	4			25	12	19
A Traffic accidents (810-825)	Male	213		28	4	30	6	6	7	6	7	94	23	96
	Female	54		8		10	1	1	4			24	12	18
B Non-traffic accidents	Male	4		1								1	2	1
	Female	2		1								1		1

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1961—Continued

CAUSE OF DEATH (Intermediate List)	SEX	Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Red Deer	Total urban places 5000 + population	Urban places 1000-4999 pop.	Residual (rural)
		AE139 Other transport accidents	Male	35		8		5		1		1		15	5	15
	Female	2											1	1
A Submersion of occupant of small boat (850)	Male	9				3						3	2	4
	Female													
C Other	Male	26		8		2		1		1		12	3	11
	Female	2											1	1
AE140 Accidental poisoning	Male	27		5		6			2	1		14	2	11
	Female	6		1		1						2	1	3
AE141 Accidental falls	Male	55	1	15		9			5	2	2	34	6	15
	Female	37		5	1	9			2	1	1	19	7	11
AE142 Accident caused by machinery	Male	32		3		2		1	1			7	2	23
	Female	3		1								1		2
AE143 Accident caused by fire and explosion of combustible material	Male	33		7		5			1	2		15	5	13
	Female	16		5		3			1			9		7
AE144 Accident caused by hot substance, corrosive liquid, steam, and radiation	Male	3		2								2		1
	Female													
AE145 Accident caused by firearm	Male	16		2		3						5	2	9
	Female													
AE146 Accidental drowning and submersion	Male	41		3		1			1	1	1	7	11	23
	Female	18		1		3						4		14
AE147 All other accidental causes	Male	83		5		12			2	2		21	21	41
	Female	24				4	2	1	1			8	6	10
AE148 Suicide	Male	103		23		19	1	1	3	2	1	50	12	41
	Female	16		3		5						8	1	7
AE149 Homicide and injury purposely inflicted by other persons (not in war)	Male	9		3		1			1	1		6		3
	Female	9		5								5		4
NXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO NATURE OF INJURY)	Total	841	1	135	5	128	10	11	31	19	12	352	119	370
	Male	654	1	105	4	93	7	9	23	18	11	271	91	292
	Female	187		30	1	35	3	2	8	1	1	81	28	78
AN138 Fracture of skull	Male	121	1	18	1	24	2	4	5	4	3	62	16	43
	Female	31		7		4			1			12	7	12
AN139 Fracture of spine and trunk	Male	40		2	1	4	2		1		1	11	5	24
	Female	7				1	1					2	2	3
AN140 Fracture of limbs	Male	30		8		5			3	1	1	18	5	7
	Female	32		4	1	9			1	1	1	17	7	8
AN141 Dislocation without fracture	Male	1												1
	Female													
AN143 Head injury (excluding fracture)	Male	90		15		14	1	1	5	3	1	40	10	40
	Female	14		2		1			1			4	2	8
AN144 Internal injury of chest, abdomen, and pelvis	Male	131		25	2	9	2	2	2	4	3	49	17	65
	Female	23		6		5		1	2			14	2	7
AN145 Laceration and open wounds	Male	14		2		5						7	1	6
	Female	2											1	1
AN146 Superficial injury, contusion and crushing with intact skin surface	Male	1		1								1		2
	Female													
AN147 Effects of foreign body entering through orifice	Male	13				3						3	3	7
	Female	12				3	1	1				5	2	5
AN148 Burns	Male	42		11		2				1	2	16	4	22
	Female	11		4		1			1			6		5
AN149 Effects of poisons	Male	52		12		13			2	1		28	4	20
	Female	18		3		7						10	2	6
AN150 All other and unspecified effects of external causes	Male	119		12		14		2	4	3	2	37	26	56
	Female	35		3		4	1		2			10	3	22

TABLE 11—DEATHS, BY CAUSE AND SEX, BY MARITAL STATUS AND AGE, ALBERTA, 1961 (Continued)

CAUSE OF DEATH (Intermediate List)	SEX	SINGLE							MARRIED							WIDOWED AND DIVORCED													
		Under 15 years							Total							Total							Total						
		15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70+	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70+	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70+							
A 89 Lobar pneumonia	Male	4	1	1	1	1	1	3	10	2	2	3	2	3	8	1	3	1	1	3	1	4	3						
	Female	10	2	2	2	1	1	23	47	1	1	1	6	6	4	1	1	1	1	3	1	4	2						
A 90 Bronchopneumonia	Male	145	28	28	4	3	1	3	17	1	1	1	1	1	33	40	1	1	1	8	1	40	3						
	Female	94	28	4	4	1	1	3	17	1	1	1	1	1	15	45	1	1	1	1	1	41	1						
A 91 Primary atypical, other and unspecified pneumonia	Male	62	34	5	1	1	1	2	16	1	1	1	1	1	11	16	1	1	1	1	1	16	1						
	Female	47	25	2	2	1	1	2	6	1	1	1	1	1	5	16	1	1	1	1	1	16	1						
A 92 Acute bronchitis	Male	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
A 93 Bronchitis, chronic and unqualified	Male	43	4	7	1	1	1	6	23	1	1	1	5	6	11	8	3	1	1	3	1	5	1						
	Female	8	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1	1	1	1	4	1						
A 94 Hypertrophy of tonsils and adenoids	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
A 95 Empyema and abscess of lung	Male	4	1	1	1	1	1	1	3	1	1	1	1	1	2	1	1	1	1	1	1	1	1						
	Female	4	1	1	1	1	1	1	3	1	1	1	1	1	2	1	1	1	1	1	1	1	1						
A 96 Pleurisy	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
	Female	59	3	5	3	1	1	4	41	1	1	1	2	10	8	10	1	1	1	1	1	1	8						
A 97 All other respiratory diseases	Male	22	1	3	1	1	1	4	17	1	1	1	2	10	2	11	1	1	1	1	1	1	8						
	Female	22	1	3	1	1	1	4	17	1	1	1	2	10	2	11	1	1	1	1	1	1	8						
IX. DISEASES OF THE DIGESTIVE SYSTEM	Total	364	62	51	4	2	2	13	144	1	5	16	22	28	18	104	7	10	4	4	2	83	3						
	Male	212	34	43	1	1	2	8	121	4	4	9	12	21	9	37	4	4	2	30	2	30	2						
	Female	152	28	8	3	1	1	5	23	1	1	7	10	7	17	63	2	6	2	6	2	53	1						
A 88 Diseases of teeth and supporting structures	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
	Female	17	8	7	1	1	1	2	6	1	1	1	1	1	4	4	1	1	1	1	1	3	1						
A 89 Ulcer of stomach	Male	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
	Female	22	5	5	1	1	1	1	13	1	1	1	1	1	8	7	1	1	1	1	1	1	1						
A100 Ulcer of duodenum	Male	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
	Female	8	2	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
A102 Appendicitis	Male	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
	Female	32	4	6	1	1	1	2	18	1	1	1	1	1	9	9	1	1	1	1	1	1	1						
A103 Intestinal obstruction and hernia	Male	25	4	4	1	1	1	1	11	1	1	1	1	1	3	12	1	1	1	1	1	1	1						
	Female	31	22	2	1	1	1	1	9	1	1	1	1	1	1	4	1	1	1	1	1	1	1						
A104 Gastro-enteritis and colitis, except diarrhoea of the newborn	Male	38	22	2	1	1	1	1	27	1	1	1	1	1	1	7	1	1	1	1	1	1	1						
	Female	45	22	9	1	1	1	1	26	1	2	4	4	10	2	4	3	3	2	2	2	2	1						
A105 Cirrhosis of liver	Male	17	1	1	1	1	1	1	3	1	1	1	1	1	2	4	1	1	1	1	1	1	1						
	Female	17	1	1	1	1	1	1	3	1	1	1	1	1	2	4	1	1	1	1	1	1	1						

A106	Cholelithiasis and cholecystitis	Male	19	2	1	1	1	1	1	1	1	1	1	10	5
A107	Other diseases of digestive system	Female	33	2	1	1	1	1	1	1	1	1	1	4	14
		Male	37	10	1	1	1	1	1	1	1	1	1	4	5
		Female	24	1	1	1	1	1	1	1	1	1	1	1	8
		Total	147	8	30	7	1	2	3	6	1	10	37	33	25
		Male	99	3	25	3	1	3	6	1	10	34	19	14	14
		Female	48	5	5	4	1	1	1	1	1	3	3	14	11
A108	Acute nephritis	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
		Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A109	Chronic, other and unspecified nephritis	Male	38	3	10	3	1	3	2	1	1	8	1	1	3
		Female	20	4	3	3	1	3	2	1	1	7	1	1	6
A110	Infections of kidney	Male	15	3	3	3	1	1	1	1	2	6	3	1	2
		Female	14	1	1	1	1	1	1	1	1	5	1	1	3
A111	Calculi or urinary system	Male	2	1	1	1	1	1	1	1	1	1	1	1	1
		Female	3	1	1	1	1	1	1	1	1	1	1	1	1
A112	Hyperplasia of prostate	Male	34	7	3	1	1	1	1	1	6	18	8	2	6
A114	Other diseases of genito-urinary system	Male	9	5	1	1	1	1	1	1	2	1	1	1	2
		Female	10	2	1	1	1	1	1	1	2	1	1	1	1
		Total	9	9	9	9	9	9	9	9	9	9	9	9	9
		Female	3	3	3	3	3	3	3	3	3	3	3	3	3
		Female	1	1	1	1	1	1	1	1	1	1	1	1	1
		Female	1	1	1	1	1	1	1	1	1	1	1	1	1
		Female	4	4	4	4	4	4	4	4	4	4	4	4	4
		Total	36	2	4	1	1	1	1	1	1	22	9	8	8
		Male	17	1	2	1	1	1	1	1	1	11	7	3	3
		Female	19	1	2	1	1	1	1	1	1	11	2	5	5
		Male	3	1	1	1	1	1	1	1	1	2	1	1	1
		Female	1	1	1	1	1	1	1	1	1	1	1	1	1
		Female	11	2	2	2	2	2	2	2	2	5	4	4	4
		Female	1	1	1	1	1	1	1	1	1	1	1	1	1
		Female	2	2	2	2	2	2	2	2	2	2	2	2	2
		Female	1	1	1	1	1	1	1	1	1	1	1	1	1
		Female	1	1	1	1	1	1	1	1	1	1	1	1	1
		Female	1	1	1	1	1	1	1	1	1	1	1	1	1
		Female	3	3	3	3	3	3	3	3	3	3	3	3	3
		Female	6	6	6	6	6	6	6	6	6	6	6	6	6
		Female	1	1	1	1	1	1	1	1	1	1	1	1	1
		Female	3	3	3	3	3	3	3	3	3	3	3	3	3
		Female	6	6	6	6	6	6	6	6	6	6	6	6	6

XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM

XII. XIII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM

A115 Sepsis of pregnancy, childbirth and the puerperium
A116 Toxaemias of pregnancy and the puerperium
A117 Haemorrhage of pregnancy and childbirth
A120 Other complications of pregnancy, childbirth and the puerperium

A121 Infections of skin and subcutaneous tissue
A122 Arthritis and spondylitis
A123 Muscular rheumatism and rheumatism, unspecified
A124 Osteomyelitis and periostitis
A125 Ankylosis and acquired musculoskeletal deformities
A126 All other diseases of skin and musculoskeletal system

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1961

CAUSE OF DEATH (Intermediate List)	SEX	MONTHS												
		Total	January	February	March	April	May	June	July	August	September	October	November	December
ALL CAUSES	Total	8863	741	695	747	728	754	760	702	753	719	781	694	789
	Male	5695	461	446	498	462	491	500	423	494	454	502	456	508
	Female	3168	280	249	249	266	263	260	279	259	265	279	238	281
I. INFECTIVE AND PARASITIC DISEASES	Total	86	6	13	6	7	9	6	2	6	7	9	6	3
	Male	53	2	6	4	5	6	5	1	5	5	5	3	3
	Female	33	4	7	2	2	3	1	1	1	2	4	3	3
A 1 Tuberculosis of respiratory system	Male	20	1	1	1	4	1	1	2	4	5	1	1	1
	Female	7	1	1	1	1	1	1	1	1	1	1	1	1
A 2 Tuberculosis of meninges and central nervous system	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 3 Tuberculosis of intestines, peritoneum and mesenteric glands	Male	2	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 5 Tuberculosis, all other forms	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 6 Congenital syphilis	Male	2	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 9 General paralysis of insane	Male	4	1	1	1	1	1	1	1	1	1	1	1	1
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1
A 10 All other syphilis	Male	2	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1
A 16 Dysentery, all forms	Male	3	2	1	1	1	1	1	1	1	1	1	1	1
	Female	3	2	1	1	1	1	1	1	1	1	1	1	1
A 17 Scarlet fever	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 18 Streptococcal sore throat	Male	4	1	1	1	1	1	1	1	1	1	1	1	1
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1
A 20 Septicaemia and pyaemia	Male	2	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1
A 22 Whooping cough	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 23 Meningococcal infections	Male	2	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1
A 28 Acute poliomyelitis	Male	3	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 29 Acute infectious encephalitis	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	Male	3	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 32 Measles	Male	3	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 34 Infectious hepatitis	Male	3	1	1	1	1	1	1	1	1	1	1	1	1
	Female	7	1	1	1	1	1	1	1	1	1	1	1	1
A 35 Rabies	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 42 Other diseases due to helminths	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1
A 43 All other diseases classified as infective and parasitic	Male	5	1	1	1	1	1	1	1	1	1	1	1	1
	Female	5	1	1	1	1	1	1	1	1	1	1	1	1
II. NEOPLASMS	Total	1390	123	97	113	128	122	143	124	96	110	114	123	97
	Male	845	71	56	71	77	70	84	80	61	61	77	76	61
	Female	545	52	41	42	51	52	59	44	35	49	37	47	36
A 44 Malignant neoplasm of buccal cavity and pharynx	Male	13	1	2	1	1	1	2	1	2	1	1	3	1
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1
A 45 Malignant neoplasm of oesophagus	Male	13	1	1	2	1	2	1	1	2	1	2	1	2
	Female	5	1	1	1	1	1	1	1	1	1	1	1	1
A 46 Malignant neoplasm of stomach	Male	123	12	7	8	13	6	20	13	9	8	11	7	6
	Female	39	4	3	4	5	3	3	3	2	4	2	6	3
A 47 Malignant neoplasm of intestine, except rectum	Male	69	8	3	4	5	8	3	11	5	2	4	4	7
	Female	52	4	3	3	4	8	4	8	1	4	2	6	5
A 48 Malignant neoplasm of rectum	Male	34	2	1	4	6	4	1	2	2	4	2	2	4
	Female	14	4	2	1	2	2	2	1	1	1	1	1	1
A 49 Malignant neoplasm of larynx	Male	3	1	1	1	1	1	1	1	1	1	1	1	1
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1
A 50 Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	Male	150	16	8	10	14	10	16	15	13	12	15	13	8
	Female	17	1	1	1	3	1	5	1	1	1	2	2	2
A 51 Malignant neoplasm of breast	Male	110	13	11	6	8	9	9	8	6	8	9	10	13
	Female	31	6	3	4	4	4	3	3	4	4	1	2	1
A 52 Malignant neoplasm of cervix uteri	Male	21	2	2	1	2	3	1	1	2	5	1	1	1
	Female	99	8	6	9	10	6	9	4	7	7	16	7	10
A 54 Malignant neoplasm of prostate	Male	11	1	1	1	1	1	1	2	2	1	1	1	1
	Female	6	1	1	1	1	1	2	1	1	1	1	1	1
A 55 Malignant neoplasm of skin	Male	6	1	1	1	1	1	3	2	3	1	1	1	1
	Female	6	1	1	1	1	1	3	2	3	1	1	1	1
A 56 Malignant neoplasm of bone and connective tissue	Male	11	1	1	1	1	1	1	1	1	1	2	2	1
	Female	11	1	1	1	1	1	1	1	1	1	2	2	1

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1961—Continued

CAUSE OF DEATH (Intermediate List)	SEX	Total	MONTHS												
			January	February	March	April	May	June	July	August	September	October	November	December	
A 57 Malignant neoplasm of all other and unspecified sites	Male	207	15	18	18	16	14	19	16	13	22	17	17	25	14
	Female	171	14	8	10	24	16	21	14	12	17	11	14	10	
A Other digestive organs (155-159)	Male	90	7	5	11	10	8	10	3	3	8	8	12	5	
	Female	69	4	1	5	7	9	12	6	5	7	3	8	2	
B Other respiratory organs (160, 164, 165)	Male	3	1								1	1			
	Female														
C Urinary organs (180, 181)	Male	49	4	5	3	4	4	4	6	3	3	4	5	3	
	Female	21	1	3		5		2	3	2	1	1	1	1	
D Brain and other parts of nervous system (193)	Male	31	1	4	1		1	1	3	3	6	3	6	2	
	Female	17	2	1	2	4	4		2		2				
E Other	Male	34	3	3	3	2	1	4	6	1	4	1	2	4	
	Female	64	7	3	3	8	3	7	6	4	8	5	5	5	
A 58 Leukaemia and aleukaemia	Male	49	6	2	6	4	5	5	3	3	3	3	8	1	
	Female	26	1	3	4	3	1	3	1	3	3	2	2		
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	Male	54	1	2	6	4	5	8	6	6	2	6	4	4	
	Female	20	1		3		2	3	2		3	2	3	1	
A Hodgkin's disease (201)	Male	15	1		4		1	2	3	1	1	1	1	1	
	Female	4						1	1		1		1		
B Other	Male	39		2	2	4	4	7	4	3	1	5	4	3	
	Female	16	1		3		2	2	1		2	2	2	1	
A 60 Benign neoplasms and neoplasms of unspecified nature	Male	14	1	1	2	2	2	2	2		2	1	1		
	Female	16		1	3	1	1	2	2	2	2				
III. IV. ALLERGIC DISORDERS AND ENDOCRINE METABOLIC AND BLOOD DISEASES	Total	224	19	18	23	12	19	23	14	18	20	16	19	23	
	Male	112	7	11	12	5	13	10	6	7	13	8	8	12	
	Female	112	12	7	11	7	6	13	8	11	7	8	11	11	
A 61 Nontoxic goitre	Male					1									
	Female	2						1							
A 62 Thyrotoxicosis with or without goitre	Male	1								1					
	Female	1							1						
A 63 Diabetes mellitus	Male	63	3	6	10	2	7	4	3	5	8	5	6	4	
	Female	71	7	4	8	3	3	6	7	7	5	6	8	8	
A 64 Avitaminosis and other deficiency states	Male	3		1							1			1	
	Female	4		1											
A 65 Anaemias	Male	15	1		2	1	2	2	1	2		4	1	1	
	Female	6			2	1	1	1							
A 66 Allergic disorders; all other endocrine, metabolic and blood diseases	Male	30	3	4		2	4	4	2	1		2	2	6	
	Female	28	5	2	1	2	2	3	1	2		3	4	3	
V. MENTAL, PSYCHONEUROTIC AND PERSONALITY DISORDERS	Total	16	1		1	1	4	3	1	1	1	1	2		
	Male	15	1		1	1	4	3	1	1	1		2		
	Female	1										1			
A 67 Psychoses	Male	2			1		1								
	Female	1													
A 68 Psychoneuroses and disorders of personality	Male	12	1				3	3	1	1	1		2		
	Female														
A 69 Mental deficiency	Male	1				1									
	Female														
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	Total	1117	95	92	94	86	96	99	93	95	81	95	72	119	
	Male	631	57	53	52	45	64	56	46	59	46	41	45	67	
	Female	486	38	39	42	41	32	43	47	36	35	54	27	52	
A 70 Vascular lesions affecting central nervous system	Male	564	49	45	47	41	59	51	39	52	42	35	43	61	
	Female	444	33	39	38	38	30	36	46	34	32	45	25	48	
A 71 Nonmeningococcal meningitis	Male	6	1	1	1	1			1					1	
	Female	6	2		1										
A 72 Multiple sclerosis	Male	11	2	1		1	1	1	1	1	1	2			
	Female	7			1		1	1				3	1		
A 73 Epilepsy	Male	14	1	3	2		1	2	1	3			1		
	Female	8						2		1	1	1	1	2	
A 77 Otitis media and mastoiditis	Male	2			1			1							
	Female	2													
A 78 All other diseases of the nervous system and sense organs	Male	36	4	3	2	2	3	2	4	3	3	4	1	5	
	Female	19	3		1	3	1	2	1	1	2	4		1	
VII. DISEASES OF THE CIRCULATORY SYSTEM	Total	2959	248	230	257	240	254	230	207	276	236	276	225	280	
	Male	1989	161	155	174	157	170	165	123	188	161	190	149	191	
	Female	970	87	75	83	83	84	65	79	88	75	86	76	89	
A 79 Rheumatic fever	Male	1	1												
	Female	4			1				1	1		1			
A 80 Chronic rheumatic heart disease	Male	56	2	4	5	4	7	6	6	7	3	4	3	5	
	Female	64	3	9	5	7	4	1	8	6	6	2	7	6	
A 81 Arteriosclerotic and degenerative heart disease	Male	1648	130	120	151	128	140	136	105	160	136	161	123	156	
	Female	658	65	46	56	54	54	49	51	59	53	56	52	63	

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1961—Continued

CAUSE OF DEATH (Intermediate List)	SEX	MONTHS												
		Total	January	February	March	April	May	June	July	August	September	October	November	December
A 82 Other diseases of heart	Male	101	7	15	8	6	5	4	4	9	10	13	12	6
	Female	62	3	4	7	6	9	7	2	10	3	4	1	1
A 83 Hypertension with heart disease	Male	59	4	5	3	6	6	4	5	5	5	3	3	6
	Female	57	3	4	1	2	2	1	1	1	2	1	1	4
A 84 Hypertension without mention of heart	Male	12	2	2	2	1	1	1	2	2	1	2	2	3
	Female	19	2	4	2	1	1	1	1	1	1	1	1	1
A 85 Diseases of arteries	Male	101	16	9	3	10	11	12	7	4	6	7	5	11
	Female	89	11	7	7	9	9	4	8	6	6	11	6	5
A 86 Other diseases of circulatory system	Male	11	1	1	2	1	1	2	2	2	1	1	2	2
	Female	17	1	2	1	2	3	2	2	1	1	2	2	2
VIII. DISEASES OF THE RESPIRATORY SYSTEM	Total	554	54	64	44	59	46	32	35	38	34	43	50	55
	Male	361	35	44	35	42	29	19	26	21	17	28	26	39
	Female	193	19	20	9	17	17	13	9	17	17	15	24	16
A 87 Acute upper respiratory infections	Male	5	1	1	1	1	1	1	1	1	1	1	1	3
	Female	3	1	1	1	1	1	1	1	1	1	1	1	1
A 88 Influenza	Male	11	1	1	1	1	1	1	1	1	1	2	3	3
	Female	6	1	1	1	1	1	1	1	1	1	1	1	1
A 89 Lobar pneumonia	Male	28	3	3	1	3	3	2	3	3	1	3	1	2
	Female	10	2	1	1	1	1	1	1	1	1	1	1	1
A 90 Bronchopneumonia	Male	145	10	23	18	21	10	5	8	8	3	10	14	15
	Female	94	10	13	5	8	6	5	6	6	9	8	11	7
A 91 Primary atypical, other and unspecified pneumonia	Male	62	8	9	4	2	7	4	9	4	3	3	2	7
	Female	47	4	2	1	6	6	3	2	5	2	4	8	4
A 92 Acute bronchitis	Male	2	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 93 Bronchitis, chronic and unqualified	Male	43	6	3	3	4	2	2	1	2	4	6	1	9
	Female	8	1	1	1	1	1	3	1	1	1	1	1	1
A 94 Hypertrophy of tonsils and adenoids	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 95 Empyema and abscess of lung	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1
A 96 Pleurisy	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	59	5	6	7	9	5	4	4	4	5	3	5	2
A 97 All other respiratory diseases	Male	22	1	4	1	1	3	1	1	3	3	1	2	2
	Female	22	1	4	1	1	3	1	1	3	3	1	2	2
IX. DISEASES OF THE DIGESTIVE SYSTEM	Total	364	34	32	30	26	34	23	38	23	25	35	32	32
	Male	212	15	20	15	16	20	17	18	17	9	22	24	19
	Female	152	19	12	15	10	14	6	20	6	16	13	8	13
A 98 Diseases of teeth and supporting structures	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A 99 Ulcer of stomach	Male	17	2	2	1	2	2	2	1	4	4	1	2	2
	Female	8	1	1	1	3	1	2	2	1	1	1	1	1
A100 Ulcer of duodenum	Male	22	3	2	1	1	2	3	1	2	4	2	1	2
	Female	3	1	1	1	1	1	1	1	1	1	2	2	2
A102 Appendicitis	Male	8	1	1	1	1	1	1	1	1	1	1	2	2
	Female	4	1	1	1	1	1	1	1	1	1	1	5	5
A103 Intestinal obstruction and hernia	Male	32	3	3	2	6	1	1	1	1	1	4	5	5
	Female	25	5	1	3	2	1	4	1	4	3	1	3	3
A104 Gastro-enteritis and colitis, except diarrhoea of the newborn	Male	31	2	8	1	2	1	1	8	2	2	1	3	4
	Female	38	4	4	7	3	1	4	1	6	1	3	4	5
A105 Cirrhosis of liver	Male	15	3	1	5	5	1	6	7	4	1	3	4	1
	Female	17	2	3	2	1	2	3	1	3	1	1	1	1
A106 Cholelithiasis and cholecystitis	Male	19	2	2	2	4	2	3	1	1	1	2	3	3
	Female	33	4	4	2	5	2	3	1	3	4	3	7	7
A107 Other diseases of digestive system	Male	37	3	4	3	5	1	2	3	3	3	3	1	3
	Female	24	3	2	4	2	1	4	1	1	1	1	1	1
X. DISEASES OF THE GENITO-URINARY SYSTEM	Total	147	11	8	14	15	11	14	12	14	17	10	7	14
	Male	99	8	6	10	10	6	12	6	7	13	7	6	8
	Female	48	3	2	4	5	5	2	6	7	4	3	1	6
A108 Acute nephritis	Male	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1
A109 Chronic, other and unspecified nephritis	Male	38	1	2	4	4	2	4	5	4	7	2	3	4
	Female	20	1	1	2	1	2	3	1	2	3	1	2	2
A110 Infections of kidney	Male	15	2	1	1	2	2	1	1	1	3	1	1	2
	Female	14	1	1	1	1	2	1	1	5	1	1	1	2
A111 Calculi of urinary system	Male	2	1	1	1	1	1	1	1	1	1	1	1	1
	Female	3	1	1	1	1	1	1	1	1	1	1	1	1
A112 Hyperplasia of prostate	Male	34	4	2	3	4	4	2	2	2	4	3	3	3
	Female	9	1	2	2	2	2	2	2	1	1	1	1	1
A114 Other diseases of genito-urinary system	Male	10	2	2	2	1	2	1	2	2	1	1	1	1
	Female	10	2	2	2	1	2	1	2	2	1	1	1	1

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1961—Continued

CAUSE OF DEATH (Intermediate List)	SEX	MONTHS												
		Total	January	February	March	April	May	June	July	August	September	October	November	December
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM	Total	9	1	1	2	1			1		1			2
A115 Sepsis of pregnancy, childbirth and the puerperium	Female	3		1										2
A116 Toxaemias of pregnancy and the puerperium	Female	1	1											
A117 Haemorrhage of pregnancy and childbirth	Female	1							1					
A120 Other complications of pregnancy, childbirth, and the puerperium	Female	4			2	1					1			
XII. XIII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM	Total	36	3	6	3		1	1	4	3	7	1	3	4
	Male	17		3	1		1		3	2	5		1	1
	Female	19	3	3	2			1	1	1	2	1	2	3
A121 Infections of skin and subcutaneous tissue	Male	3		1							2			
	Female	1			1									
A122 Arthritis and spondylitis	Male	8		1	1				2	2			1	1
	Female	11	3	1	1				1		1		2	2
A123 Muscular rheumatism and rheumatism, unspecified	Male	1									1			
	Female													
A124 Osteomyelitis and periostitis	Male	2					1				1			
	Female													
A125 Ankylosis and acquired musculoskeletal deformities	Male	1										1		
	Female	3		1					1		1			
A126 All other diseases of skin and musculoskeletal system	Male	6		2				1		1	1			1
	Female													
XIV. CONGENITAL MALFORMATIONS	Total	224	19	15	24	21	17	16	10	21	19	21	24	17
	Male	142	12	7	18	11	9	10	8	13	7	18	15	14
	Female	82	7	8	6	10	8	6	2	8	12	3	9	3
A127 Spina bifida and meningocele	Male	17	1	2	1	2		1	1	3		1	3	2
	Female	4	1				1			1	1			
A128 Congenital malformations of circulatory system	Male	61	3	2	12	1	4	4	4	6	4	9	5	7
	Female	37	4	3	4	4	5	1		5	5	2	3	1
A129 All other congenital malformations	Male	64	8	3	5	8	5	5	3	4	3	8	7	5
	Female	41	2	5	2	6	2	5	2	2	6	1	6	2
XV. CERTAIN DISEASES OF EARLY INFANCY	Total	586	41	42	44	42	53	55	63	55	51	56	35	49
	Male	347	29	26	34	24	33	33	28	29	34	31	18	28
	Female	239	12	16	10	18	20	22	35	26	17	25	17	21
A130 Birth injuries	Male	45	5	6	4	4	3	3	6	4	2	4	1	3
	Female	48	4	4		3	7	3	4	8	1	4	4	6
A131 Postnatal asphyxia and atelectasis	Male	95	10	6	10	2	8	10	4	11	13	9	7	5
	Female	50	1	4		6	3	4	6	6	7	3	3	3
A132 Infections of the newborn	Male	23	1		3	2	3	2	1	4	2	2		3
	Female	14	2	2	1			2	1	2	1	2	1	
A133 Haemolytic disease of newborn	Male	7	2	1		1					1		1	1
	Female	10		1	2	1	2	1				1	1	1
A134 All other defined diseases of early infancy	Male	15	1		2	2	1			3	2	1	2	1
	Female	6		1		1				1	1		1	
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	Male	162	10	13	15	13	18	18	17	7	14	15	7	15
	Female	111	5	4	7	7	8	12	23	9	7	11	7	11
XVI. SYMPTOMS, SENILITY, AND ILL-DEFINED CONDITIONS	Total	310	36	30	25	25	26	18	18	31	27	23	26	
	Male	218	26	22	15	22	17	18	8	13	21	18	19	
	Female	92	10	8	10	3	8	8	10	5	10	9	4	7
A136 Senility without mention of psychosis	Male	59	6	5	1	3	9	8	2	3	7	6	5	4
	Female	20	2	3	1	1					4	1	2	2
A137 Ill-defined and unknown causes	Male	159	20	17	14	19	8	10	6	10	14	12	14	15
	Female	72	8	5	9	2	8	4	10	5	6	8	2	5
EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)	Total	841	50	47	67	65	63	89	80	89	79	77	73	62
	Male	654	37	37	56	47	49	68	64	71	61	57	64	43
	Female	187	13	10	11	18	14	21	16	18	18	20	9	19
AE138 Motor vehicle accidents	Male	217	8	10	20	13	14	12	19	29	31	27	21	13
	Female	56	1	1	4	6	5	7	4	5	6	8	3	6
A Traffic accidents (810-825)	Male	213	8	9	20	13	14	12	16	29	31	27	21	13
	Female	54	1	1	4	5	5	6	4	5	6	8	3	6
Non-traffic accidents	Male	4		1					3					
	Female	2				1		1						
AE139 Other transport accidents	Male	35		2	1	8	1	9	6	4	1	2	1	
	Female	2				1		1						

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1961—Continued

CAUSE OF DEATH (Intermediate List)	SEX	MONTHS												
		Total	January	February	March	April	May	June	July	August	September	October	November	December
A Submersion of occupant of small boat (850)	Male	9	.....	.....	.....	.....	1	4	1	2	.....	1	.....	.....
C Other	Female	26	.....	2	1	8	.....	5	5	2	1	1	1	.....
AE140 Accidental poisoning	Male	27	4	3	3	.....	1	1	2	.....	2	2	3	5
	Female	6	.....	3	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
AE141 Accidental falls	Male	55	3	5	5	5	4	7	4	3	5	5	3	6
	Female	37	3	3	3	3	4	2	3	6	1	1	1	5
AE142 Accident caused by machinery	Male	32	2	.....	1	2	6	5	1	3	2	4	5	1
	Female	3	.....	.....	.....	.....	.....	.....	.....	2	1	.....	.....	.....
AE143 Accident caused by fire and ex- plosion of combustible material	Male	33	5	2	2	5	.....	3	1	1	.....	3	9	2
	Female	16	2	.....	2	2	1	1	1	.....	2	3	2	.....
AE144 Accident caused by hot substance, corrosive liquid, steam, and radiation	Male	3	.....	.....	1	1	.....	1	.....	.....	.....	.....	.....	.....
	Female	16	1	.....	1	.....	2	1	4	1	2	2	2	.....
AE145 Accident caused by firearm	Male	41	.....	2	2	3	3	5	10	11	1	.....	4	.....
	Female	18	.....	1	.....	.....	2	3	6	5	.....	.....	.....	1
AE146 Accidental drowning and submersion	Male	83	1	7	9	4	11	7	9	6	6	5	7	11
	Female	24	2	.....	1	3	.....	2	1	2	1	8	2	2
AE147 All other accidental causes	Male	103	12	6	11	5	6	14	7	11	11	6	9	5
	Female	16	3	2	.....	2	2	1	1	1	.....	2	1	2
AE148 Suicide	Male	9	1	.....	.....	1	1	2	1	2	.....	1	.....	.....
	Female	9	2	.....	1	1	1	1	1	1	.....	.....	.....	1
NXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO NATURE OF INJURY)	Total	841	50	47	67	65	63	89	80	89	79	77	73	62
	Male	654	37	37	56	47	49	68	64	71	61	57	64	43
	Female	187	13	10	11	18	14	21	16	18	18	20	9	19
AN138 Fracture of skull	Male	121	10	5	12	5	10	10	7	15	18	14	11	4
	Female	31	2	1	2	4	1	5	2	4	2	4	2	2
AN139 Fracture of spine and trunk	Male	40	.....	1	1	3	4	3	4	5	3	5	5	6
	Female	7	.....	.....	1	1	.....	1	.....	1	1	1	.....	1
AN140 Fracture of limbs	Male	30	2	5	3	3	3	1	1	3	3	2	.....	4
	Female	32	3	3	1	2	3	4	2	2	6	1	1	4
AN141 Dislocation without fracture	Male	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
AN143 Head injury (excluding fracture)	Male	90	5	5	12	4	3	11	8	10	11	7	11	3
	Female	14	1	.....	1	3	3	1	.....	.....	2	1	.....	2
AN144 Internal injury of chest, abdomen, and pelvis	Male	131	2	6	11	9	10	13	17	15	11	16	12	9
	Female	23	1	1	2	2	1	3	2	4	2	2	.....	3
AN145 Laceration and open wounds	Male	14	1	2	.....	1	3	.....	2	1	1	1	1	1
	Female	2	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
AN146 Superficial injury, contusion and crushing with intact skin surface	Male	2	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....
	Female	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
AN147 Effects of foreign body entering through orifice	Male	13	.....	.....	1	1	2	1	2	1	1	.....	2	2
	Female	12	2	.....	.....	1	.....	.....	.....	1	1	6	1	.....
AN148 Burns	Male	42	5	2	3	12	.....	4	1	1	1	4	8	1
	Female	11	2	.....	2	.....	.....	1	1	.....	1	2	2	.....
AN149 Effects of poisons	Male	52	5	4	7	2	1	4	4	3	6	4	5	7
	Female	18	1	4	.....	4	2	1	.....	.....	1	1	1	3
AN150 All other and unspecified effects of external causes	Male	119	7	7	6	7	13	20	17	17	6	4	9	6
	Female	35	1	1	1	.....	4	5	9	6	1	2	2	3

TABLE 13—INFANT DEATHS AND HOSPITAL INFANT DEATHS BY OCCURRENCE AND RESIDENCE FOR CENSUS DIVISIONS, ALBERTA, 1961

CENSUS DIVISIONS	Total Infant Deaths				Infant Deaths in Hospitals			
	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere
ALBERTA	1039	1044	7	12	897	902	7	12
Division No. 1	21	22	.....	1	19	20	.....	1
Division No. 2	48	46	6	4	40	38	.....	4
Division No. 3	20	21	2	3	16	17	2	3
Division No. 4	7	8	.....	1	5	6	.....	1
Division No. 5	9	20	.....	11	7	18	.....	11
Division No. 6	237	222	21	6	200	187	19	6
Division No. 7	26	31	.....	5	23	28	.....	5
Division No. 8	67	63	6	2	61	57	6	2
Division No. 9	17	23	3	9	13	17	3	7
Division No. 10	36	47	.....	15	30	43	.....	15
Division No. 11	351	305	4	9	326	281	53	8
Division No. 12	61	67	2	8	48	53	2	7
Division No. 13	37	40	7	10	29	32	7	10
Division No. 14	12	23	.....	11	9	20	.....	11
Division No. 15	90	106	1	17	71	85	1	15

TABLE 14—INFANT DEATHS AND HOSPITAL INFANT DEATHS BY OCCURRENCE AND RESIDENCE FOR URBAN PLACES OF 1,000 POPULATION AND OVER, ALBERTA, 1961

CITY, TOWN OR VILLAGE	Total Infant Deaths				Infant Deaths in Hospitals			
	Total by Occurrence	Total by Residence	By Occurrence, Residence Elsewhere	By Residence, Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence, Residence Elsewhere	By Residence, Occurrence Elsewhere
Athabasca	10	1	9	.....	10	1	9	.....
Barrhead	7	4	4	1	7	4	4	1
Beverly	9	9	.....	9	9	9	.....	9
Blairmore	1	2	.....	1	1	1	.....	1
Bonnyville	6	2	4	.....	6	2	4	.....
Bow Island	3	2	2	1	2	2	2	1
Bowness	7	7	.....	7	5	5	.....	5
Brooks	11	9	2	.....	10	8	2	.....
Calgary	223	168	56	1	194	145	50	1
Camrose	7	3	5	1	7	2	5	.....
Cardston	4	1	3	.....	4	1	3	.....
Claresholm	.....	1	.....	1	.....	1	.....	1
Coaldale	1	.....	1	.....	1	.....	1	.....
Cold Lake	7	1	6	.....	7	1	6	.....
Coleman	1	2	.....	1	1	1	.....	1
Devon	.....	.....	.....	.....	.....	.....	.....	.....
Didsbury	1	2	.....	1	1	2	.....	1
Drayton Valley	3	8	.....	5	2	6	.....	4
Drumheller	4	1	3	.....	4	1	3	.....
Edmonton	333	207	128	2	315	192	125	2
Edson	3	5	.....	2	3	5	.....	2
Fairview	1	2	.....	1	1	1	.....	1
Forest Lawn	1	11	.....	10	.....	10	.....	10
Fort Macleod	1	.....	1	.....	1	.....	1	.....
Fort Saskatchewan	.....	.....	.....	.....	.....	.....	.....	.....
Grande Prairie	25	17	9	1	23	15	9	1
Hanna	3	3	.....	2	2	2	.....	2
High Prairie	23	12	13	2	22	11	13	2
High River	3	3	2	2	3	3	2	2
Innisfail	7	3	4	.....	7	3	4	.....
Jasper Place	2	23	.....	21	.....	20	.....	20
Lacombe	2	3	.....	1	2	2	.....	2
Leduc	.....	2	.....	2	.....	2	.....	2
Lethbridge	24	21	5	2	21	18	5	2
Lloydminster	.....	3	.....	3	.....	3	.....	3
Magrath	2	1	2	1	2	1	2	1
McLennan	2	1	1	.....	2	1	1	.....
McMurray	5	3	2	.....	4	2	2	.....
Medicine Hat	18	13	5	.....	17	12	5	.....
Nanton	.....	1	.....	1	.....	1	.....	1
Olds	2	1	2	1	2	1	2	1
Peace River	10	5	6	1	9	4	6	1
Pincher Creek	7	4	3	.....	5	3	2	.....
Ponoka	5	5	.....	.....	5	5	.....	.....
Raymond	1	1	.....	.....	.....	.....	.....	.....
Redcliff	.....	2	.....	2	.....	2	.....	2
Red Deer	27	20	7	.....	27	20	7	.....
Redwater	.....	1	.....	1	.....	1	.....	1
Rocky Mountain House	6	2	4	.....	6	2	4	.....
St. Albert	.....	7	.....	7	.....	7	.....	7
St. Paul	7	3	4	.....	7	3	4	.....
Stettler	7	6	3	2	7	6	3	2
Stony Plain	1	2	.....	1	.....	1	.....	1
Sylvan Lake	.....	2	.....	2	.....	2	.....	2
Taber	8	6	2	.....	6	4	2	.....
Three Hills	.....	.....	.....	.....	.....	.....	.....	.....
Vegreville	7	5	2	.....	6	5	1	.....
Vermilion	4	7	.....	3	4	7	.....	3
Vulcan	1	2	.....	1	1	2	.....	1
Wainwright	5	3	3	1	4	2	3	1
Westlock	7	1	7	.....	7	1	7	.....
Wetaskiwin	9	4	6	1	9	4	6	1

0	Without immaturity	29	8	27	19	8	12	5	3	1	3	2	1	1	1	1	2	2	2
.5	With immaturity	116	74	42	116	74	42	44	28	14	6	2	2	2	2	2	2	2	2
763	Phenomena of newborn—	31	21	31	20	11	3	1	1	1	1	1	1	1	1	1	1	1	1
0	Without immaturity	21	16	5	21	16	5	3	1	1	1	1	1	1	1	1	1	1	1
.5	With immaturity	10	4	6	10	4	6	6	1	1	1	1	1	1	1	1	1	1	1
764	Diarrhoea of newborn—	5	2	3	5	2	3	3	1	1	1	1	1	1	1	1	1	1	1
0	Without immaturity	5	2	3	5	2	3	3	1	1	1	1	1	1	1	1	1	1	1
.5	With immaturity	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
765-768	Other infections of the newborn—	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	Without immaturity	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
.5	With immaturity	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
769	Maternal toxæmia—	8	5	3	8	5	3	3	2	2	1	1	1	1	1	1	1	1	1
0-4	Without immaturity	3	3	3	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1
.5-9	With immaturity	5	2	5	2	5	2	2	1	1	1	1	1	1	1	1	1	1	1
770	Erythroblastosis	17	10	17	7	10	17	7	10	17	7	10	17	7	10	17	7	10	17
0-2	Without immaturity	14	5	9	14	5	9	4	5	1	1	1	1	1	1	1	1	1	1
.5-7	With immaturity	3	5	8	3	5	8	3	1	1	1	1	1	1	1	1	1	1	1
771	Hæmorrhagic disease of newborn	7	6	1	7	6	1	1	1	1	1	1	1	1	1	1	1	1	1
0	Without immaturity	5	4	1	5	4	1	1	1	1	1	1	1	1	1	1	1	1	1
.5	With immaturity	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1
772	Nutritional maladjustment—	6	4	2	6	4	2	1	1	1	1	1	1	1	1	1	1	1	1
0	Without immaturity	6	4	2	6	4	2	1	1	1	1	1	1	1	1	1	1	1	1
.5	With immaturity	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
773	Ill-defined diseases peculiar to infancy	72	49	23	66	44	22	23	10	11	3	5	5	3	1	2	1	1	1
0	Without immaturity	20	16	4	14	11	3	3	2	5	1	1	1	1	1	1	1	1	1
.5	With immaturity	52	33	19	52	33	19	52	33	19	52	33	19	52	33	19	52	33	19
774-776	Ill-defined and unknown causes	201	113	88	196	109	87	82	67	17	10	2	8	2	1	1	1	1	1
795	Motor-vehicle traffic accidents	27	12	15	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1
E810-E825	Accidental falls	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
E900-E904	Accidents caused by fire	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
E916	Inhalation of toxic gas	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
E921, E922	Inhalation of food or other object	14	5	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
E924, E925	Accidental mechanical suffocation	23	16	7	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Residual	All other accidents	6	2	4	6	2	4	6	2	4	6	2	4	6	2	4	6	2	4
E800-E862	RESIDUALS	8	5	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class I	(Infective and parasitic diseases)	8	5	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class II	(Neoplasms)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class III	(Allergic etc. diseases)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class IV	(Blood etc. diseases)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class V	(Diseases of nervous system etc.)	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class VI	(Diseases of circulatory system)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class VII	(Diseases of respiratory system)	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class VIII	(Diseases of digestive system)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class IX	(Diseases of digestive system)	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class X	(Accidental and violent causes)	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Class XVII	All other causes	4	4	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3

*Includes Hodgkin's disease, leukaemia and aleukaemia.

TABLE 16—SELECTED CAUSES OF INFANT DEATH BY SEX AND MONTH OF DEATH, ALBERTA, 1961

Int. List No.	CAUSE OF DEATH (7th Rev.)	MONTH OF DEATH																										
		Total Under 1 Year		January		February		March		April		May		June		July		August		September		October		November		December		
		Total	Male	Female	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
	ALL CAUSES	1044	612	432	60	33	54	38	52	21	46	35	52	35	50	32	46	45	58	40	49	38	50	42	40	38	55	35
001-019	Tuberculosis, all forms	1	1																1									
020-029	Syphilis																											
045-048	Dysentery, all forms																											
050	Scarlet fever			2			2																					
052	Erysipelas					1																						
055	Diphtheria																											
056	Whooping cough					1																						
057	Measles					1																						
058	All malignant neoplasms*	2	1	1	1	1	1	1																				
140-205	Hodgkin's disease	1	1																									
201	Leukemia and aleukaemia	1	1																									
204	Benign neoplasms	1	1																									
210-223	Diseases of thymus gland	1	1																									
273	Mental deficiency	7	4	3	1	2	1																					
325	Meningitis (nonmeningococcal)	5	3	2	2	1	1																					
340	Otitis media	3	2	1	1	1	1																					
351, 392	Acute upper respiratory infection	5	3	2	1	1	1																					
470-475	Influenza	3	2	1	1	1	1																					
480-483	Pneumonia (4 weeks and over)	102	57	45	11	6	6	5	5	1	6	5	3	2	2	2	7	3	7	5	2	3	2	1	8	5	3	
490-493	Bronchitis	6	4	2	2	1	1																					
500-502	Gastritis and duodenitis	7	4	3	2	1	1																					
543	Hernia and intestinal obstruction	7	4	3	2	1	1																					
560-570	Gastro-enteritis and colitis	38	22	16	2	1	6	3	1	2																		
571	Chronic enteritis and ulcerative colitis	182	112	70	8	6	7	7	10	4	11	10	8	7	9	5	7	2	13	6	5	11	12	2	12	7	10	3
720-759	Congenital malformations	93	45	48	5	4	6	4	4	3	3	3	3	3	3	3	3	3	4	4	8	2	1	4	4	1	4	3
766, 761	Injury at birth—	34	18	16	2	1	3	1	2	4	1	2	2	1	2	2	3	2	6	2	2	6	1	2	6	1	2	3
	—With immaturity	59	27	32	3	3	3	3	3	2	2	6	8	3	10	4	4	6	11	6	13	7	9	7	3	3	5	3
.5	Postnatal asphyxia and atelectasis—	145	95	50	10	1	6	4	10	2	6	2	8	3	10	4	4	6	11	6	13	7	9	7	3	5	3	
	—Without immaturity	29	21	8	2	1	3	1	1	1	1	1	1	1	2	2	2	2	4	4	1	3	2	4	1	1	1	
.5	—With immaturity	116	74	42	10	1	3	1	9	1	6	2	6	2	3	10	4	6	7	5	10	5	5	4	6	1	6	5

	99	133	1	3	4	50	37	5	9	10	14
A 34 Infectious hepatitis											
A 35 Rabies	1	1								1	
A 36 Typhus and other rickettsial diseases											
A 37 Malaria	2										
A 38 Schistosomiasis		1						1			
A 39 Hydatid disease											
A 40 Filariasis											
A 41 Ankylostomiasis	5	8				1	1			1	
A 42 Other diseases due to helminths	106	110	4	7	1	31	33	5	4	9	13
A 43 All other diseases classified as infective and parasitic	23,482	23,961	463	143	737	6,585	8,551	1,305	1,247	1,390	2,495
II. NEOPLASMS											
All malignant neoplasms (A14-A59)	23,181	23,650	454	139	727	6,491	8,460	1,286	1,238	1,360	2,463
A 44 Malignant neoplasm of buccal cavity and pharynx	496	538	12	2	9	206	211	17	19	17	25
A 45 Malignant neoplasm of oesophagus	370	590	14	11	12	118	143	19	13	18	45
A 46 Malignant neoplasm of stomach	2,860	2,732	113	16	88	780	859	168	141	162	280
A 47 Malignant neoplasm of intestine, except rectum	1,864	2,606	51	15	192	785	970	125	112	121	243
A 48 Malignant neoplasm of rectum	1,102	1,065	12	7	46	283	439	52	72	48	105
A 49 Malignant neoplasm of larynx	202	161	6		2	64	56	7	4	5	11
A 50 Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	2,544	2,774	31	11	63	655	1,042	197	162	167	359
A 51 Malignant neoplasm of breast	2,129	2,162	46	11	73	66	802	85	89	110	227
A 52 Malignant neoplasm of cervix uteri	615	629	11	3	40	24	163	243	16	31	66
A 53 Malignant neoplasm of other and unspecified parts of uterus	417	421	7	3	18	10	171	27	21	21	37
A 54 Malignant neoplasm of prostate	1,223	1,438	21	14	63	45	544	505	76	104	162
A 55 Malignant neoplasm of skin	271	299	9	4	14	13	113	13	16	17	27
A 56 Malignant neoplasm of bone and connective tissue	278	306	9	3	19	9	94	13	16	17	27
A 57 Malignant neoplasm of all other and unspecified sites	5,759	5,845	101	39	248	179	1,556	2,039	330	378	618
A Other digestive organs (155-159)	2,194	2,263	33	10	85	64	660	745	128	159	249
B Other respiratory organs (160, 164, 165)	90	103	2	1	4	6	29	40	7	8	15
C Urinary and other parts of nervous system (193)	1,205	1,232	15	8	57	37	305	462	51	75	151
D Brain and other parts of nervous system (193)	654	645	10	3	23	22	182	211	46	36	48
E Other	1,616	1,602	41	17	79	50	380	601	97	84	98
A 58 Leukaemia and aleukaemia	1,021	1,044	9	7	42	35	282	394	54	72	114
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	1,040	1,120	10	2	40	32	299	410	78	58	117
A Hodgkin's disease (201)	270	282	4		14	8	95	99	7	19	25
B Other	770	838	6	2	26	24	204	311	67	55	82
A 60 Benign neoplasms and neoplasms of unspecified nature	301	311	9	4	13	10	94	91	9	30	32
III. IV. ALLERGIC DISORDERS AND ENDOCRINE METABOLIC AND BLOOD DISEASES	3,402	3,620	72	26	187	141	1,184	1,111	141	224	323
A 61 Nontoxic goitre	14	13				3	5		1	2	3
A 62 Thyrotoxicosis with or without goitre	52	60		2	1	22	25		5	2	3
A 63 Diabetes mellitus	2,081	2,164	41	14	115	89	708	675	86	114	134
A 64 Avitaminosis and other deficiency states	83	84	2	1	5	2	27	3	7	12	18
A 65 Anaemias	320	361	10	4	16	13	120	109	25	21	28

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TABLE 17—DEATHS AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1961
(Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1960	1961												
	A 66 Allergic disorders; all other endocrine, metabolic and blood diseases	852													938	19	7	52	33	309	270	38	59	58	92	1	...
V. MENTAL, PSYCHONEUROTIC, AND PERSONALITY DISORDERS	467	467	7	8	23	12	179	169	10	13	16	29	...	1
A 67 Psychoses	236	182	...	3	12	6	63	81	2	8	3	4	...	...
A 68 Psychoneuroses and disorders of personality	118	153	1	3	7	3	33	65	3	3	12	23	...	...
A 69 Mental deficiency	113	132	6	2	4	3	83	23	5	2	1	2	...	1
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	17,102	17,057	407	139	927	565	3,723	6,758	925	773	1,117	1,697	12	14
A 70 Vascular lesions affecting central nervous system	15,428	15,299	359	133	865	515	3,076	6,236	861	683	1,008	1,550	8	5
A 71 Nonmeningococcal meningitis	177	215	11	12	12	5	68	68	4	9	12	17	2	7
A 72 Multiple sclerosis	160	174	1	1	8	6	57	54	6	11	18	13	...	...
A 73 Epilepsy	284	306	7	2	11	8	139	76	11	15	22	14	1	...
A 74 Inflammatory diseases of eye	5	2	1	...	...	...	1	1	...	2	...	...	...	...
A 75 Cataract	2	3	...	...	...	...	...	2	...	...	...	...	...	...
A 76 Glaucoma	2	2	...	...	...	...	2	2	...	...	...	...	...	...
A 77 Otitis media and mastoiditis	139	98	2	...	3	3	55	16	2	3	2	12	...	...
A 78 All other diseases of the nervous system and sense organs	907	958	26	4	28	28	325	307	41	50	55	91	1	2
VII. DISEASES OF THE CIRCULATORY SYSTEM	53,930	54,786	838	403	2,367	1,905	13,437	21,289	2,857	2,744	2,959	5,944	18	25
A 79 Rheumatic fever	53	64	...	...	4	1	29	16	3	2	5	4	...	...
A 80 Chronic rheumatic heart disease	1,394	1,464	43	6	56	38	401	481	72	89	120	156	...	2
A 81 Arteriosclerotic and degenerative heart disease	42,439	43,233	501	287	1,776	1,481	9,928	17,786	2,240	2,040	2,306	4,863	17	12
A 82 Other diseases of heart	2,129	2,095	100	14	126	74	610	550	111	164	163	177	...	6
A 83 Hypertension with heart disease	3,222	3,179	83	50	150	110	1,237	906	120	131	116	275	1	...
A 84 Hypertension without mention of heart	965	907	34	11	56	38	352	245	42	41	31	57	...	...
A 85 Diseases of arteries	3,158	3,278	73	36	178	149	788	1,108	196	231	190	325	...	2
A 86 Other diseases of circulatory system	550	566	4	3	21	14	92	197	71	46	28	87	...	3

VIII. DISEASES OF THE RESPIRATORY SYSTEM

- A 87 Acute upper respiratory infections
- A 88 Influenza
- A 89 Lobar pneumonia
- A 90 Bronchopneumonia
- A 91 Primary atypical, other and unspecified pneumonia
- A 92 Acute bronchitis
- A 93 Bronchitis, chronic and unqualified
- A 94 Hypertrophy of tonsils and adenoids
- A 95 Empyema and abscess of lung
- A 96 Pleurisy
- A 97 All other respiratory diseases

IX. DISEASES OF THE DIGESTIVE SYSTEM

- A 98 Diseases of teeth and supporting structures
- A 99 Ulcer of stomach
- A 100 Ulcer of duodenum
- A 101 Gastritis and duodenitis
- A 102 Appendicitis
- A 103 Intestinal obstruction and hernia
- A 104 Gastro-enteritis and colitis, except diarrhoea of the newborn
- A 105 Cirrhosis of liver
- A 106 Cholelithiasis and cholecystitis
- A 107 Other diseases of digestive system

X. DISEASES OF THE GENITO-URINARY SYSTEM

- A 108 Acute nephritis
- A 109 Chronic, other and unspecified nephritis
- A 110 Infections of kidney
- A 111 Calculi of urinary system
- A 112 Hyperplasia of prostate
- A 113 Diseases of breast
- A 114 Other diseases of genito-urinary system

XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILD BIRTH AND THE PUERPERIUM

- A 115 Sepsis of pregnancy, childbirth and the puerperium
- A 116 Toxaemias of pregnancy and the puerperium
- A 117 Haemorrhage of pregnancy and childbirth
- A 118 Abortion without mention of sepsis or toxæmia
- A 119 Abortion with sepsis
- A 120 Other complications of pregnancy, childbirth and the puerperium

	8,263	8,022	267	59	330	256	1,787	2,699	583	514	554	901	7	65
A 87	131	128	4	3	2	367	3	36	6	7	8	22	1	3
A 88	547	537	32	21	23	231	17	127	14	39	17	14	1	14
A 89	598	517	14	4	21	25	62	194	58	42	38	54	1	4
A 90	3,318	3,262	109	10	125	1,021	1,180	231	200	239	404	1	1	9
A 91	1,444	1,293	47	29	63	51	190	446	101	79	109	144	3	31
A 92	123	87	3	5	5	19	28	2	5	3	16	1	1	1
A 93	739	752	27	5	33	10	196	256	50	57	51	67	1	1
A 94	24	20	1	1	2	6	12	1	1	1	1	1	1	1
A 95	81	69	1	1	2	22	25	5	5	1	2	11	1	1
A 96	35	37	1	1	2	16	6	3	3	1	5	1	1	1
A 97	1,223	1,320	30	4	57	34	357	389	113	83	81	169	1	3
IX.	5,400	5,278	85	23	209	127	1,506	1,870	262	271	364	538	4	19
A 98	10	12	1	1	15	15	143	149	1	1	1	3	1	1
A 99	471	440	9	1	15	12	71	167	23	22	25	43	1	1
A 100	450	406	6	1	14	12	17	14	1	3	1	4	1	1
A 101	23	43	4	2	6	5	46	57	10	10	12	14	1	1
A 102	187	167	4	6	51	21	252	350	42	50	57	83	1	1
A 103	861	929	15	6	29	17	259	245	52	64	69	82	3	14
A 104	951	864	27	3	34	21	328	439	49	23	62	114	1	1
A 105	1,057	1,083	9	4	22	18	157	177	31	37	52	50	1	1
A 106	320	500	2	3	37	15	227	271	37	38	61	80	1	2
A 107	801	784	13	3	37	15	227	271	37	38	61	80	1	2
X.	2,973	2,984	51	15	108	105	1,112	869	123	147	147	304	2	1
A 108	78	84	1	1	61	4	39	22	2	4	2	10	1	1
A 109	1,480	1,397	24	4	13	15	121	204	34	34	29	104	1	1
A 110	529	567	11	3	6	27	44	9	4	5	18	18	1	1
A 111	112	117	1	5	20	16	119	171	28	49	34	58	1	1
A 112	465	510	10	2	8	9	114	95	14	16	19	26	1	1
A 113	1	309	5	2	8	9	114	95	14	16	19	26	1	1
A 114	288	309	5	2	8	9	114	95	14	16	19	26	1	1
XI.	215	219	11	1	4	8	89	67	13	6	9	10	1	1
A 115	24	27	5	1	1	1	11	10	2	2	3	3	1	1
A 116	34	34	5	1	1	2	22	7	3	1	1	2	1	1
A 117	44	44	4	1	1	1	1	2	1	1	1	2	1	1
A 118	5	8	1	1	1	1	1	1	1	1	1	2	1	1
A 119	18	16	2	1	2	3	38	6	4	4	4	5	1	1
A 120	82	90	2	1	2	3	38	31	6	2	4	1	1	1

DIVISION OF VITAL STATISTICS

TABLE 17—DEATHS AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1961
(Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1960	1961												
XII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM														
A121 Infections of skin and subcutaneous tissue	612	583	12	8	26	14	209	181	28	23	36	45		1
A122 Arthritis and spondylitis	69	55	2	1	1	1	24	12	4	4	4	4		
A123 Muscular rheumatism and rheumatism, unspecified	236	241	4	2	14	9	76	76	14	10	19	17		
A124 Osteomyelitis and periostitis	10	13	1	1			7	3						
A125 Ankylosis and acquired musculoskeletal deformities	20	19	1	1			5	6		2	2	2		
A126 All other diseases of skin and musculoskeletal system	15	10	1				2	6		1	1	1		
	262	245	3	4	11	3	95	78	12	7	9	22		1
XIV. CONGENITAL MALFORMATIONS														
A127 Spina bifida and meningocele	2,696	2,822	98	18	124	100	903	916	138	132	224	162		6
A128 Congenital malformations of circulatory system	301	314	14	2	4	10	140	102	9	5	21	7		
A129 All other congenital malformations	1,192	1,192	32	7	55	47	335	390	68	68	98	89		2
	1,203	1,316	52	9	65	43	428	424	61	59	105	66		4
XV. CERTAIN DISEASES OF EARLY INFANCY														
A130 Birth injuries	7,085	7,159	288	43	266	214	2,420	2,112	324	332	586	511		54
A131 Postnatal asphyxia and atelectasis	1,265	1,264	41	7	44	31	482	365	74	54	93	73		
A132 Infections of the newborn	1,522	1,502	57	7	57	28	439	510	62	69	145	120		7
A133 Haemolytic disease of newborn	582	539	31	4	17	16	194	122	38	30	37	40		9
A134 All other defined diseases of early infancy	348	327	9	5	12	12	125	86	10	23	17	28		
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	232	271	7	1	9	5	85	75	23	14	21	28		2
	3,136	3,256	143	19	127	122	1,095	954	117	142	273	222		36
XVI. SYMPTOMS, SENILITY AND ILL-DEFINED														
A136 Senility without mention of psychosis	1,357	1,220	159	8	35	69	316	160	51	49	310	44		16
A137 Ill-defined and unknown causes	591	500	95	3	17	53	115	56	26	24	79	23		7
	766	720	64	5	18	16	201	104	25	25	231	21		9
EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)														
AE138 Motor vehicle accidents	11,006	11,229	225	76	440	376	2,927	3,907	530	580	841	1,272		30
	3,700	3,882	47	23	156	164	1,255	1,298	160	169	273	331		6

A Traffic accidents (810-825)	3,624	3,782	47	23	155	154	1,232	1,260	154	161	267	323	6	....
B Non-traffic accidents	76	100	..	..	1	10	23	38	6	8	8	8	..	....
AE139 Other transport accidents	568	547	21	1	45	27	96	173	35	25	37	82	..	5
A Drowning involving small boats (850)	291	283	17	..	31	20	44	97	20	14	9	28	..	3
B Drowning involving other watercraft (851)	21	19	..	..	2	..	2	5	..	..	..	..	..	2
C Other transport	256	245	4	1	12	7	50	71	15	11	28	44	..	..
AE140 Accidental poisoning	356	391	8	4	5	11	55	140	20	25	33	90	..	..
AE141 Accidental falls	1,571	1,623	32	10	65	47	370	667	97	71	92	171	1	..
AE142 Accident caused by machinery	223	215	2	4	8	8	56	56	10	24	38	19	..	..
AE143 Accident caused by fire and explosion of combustible material	583	603	12	17	39	23	145	176	22	43	49	75	1	1
AE144 Accident caused by hot substance, corrosive liquid, steam and radiation	53	37	1	1	2	3	15	6	3	..	..	3	..	..
AE145 Accident caused by firearm	216	176	6	1	7	7	49	49	12	..	16	16	..	1
AE146 Accidental drowning and submersion	868	833	30	5	35	21	278	222	29	30	59	118	..	5
AE147 All other accidental causes	1,265	1,333	48	7	42	33	308	480	61	75	107	149	..	15
All accidental causes	9,403	9,640	207	69	400	344	2,627	3,267	449	474	704	1,054	18	27
AE148 Suicide	1,350	1,366	17	7	38	30	241	549	70	94	119	193	5	3
AE149 Homicide and injury purposely inflicted by other persons (not in war)	248	217	1	..	2	2	59	87	11	10	18	23	..	2
AE150 Injury resulting from operations of war	5	6	..	..	..	..	..	4	..	2	..	..	..	..

TABLE 18—DEATH RATES PER 100,000 POPULATION AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1961

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1960	1961												
	784.2	773.0												
ALL CAUSES	9.6	8.7	663.5	934.7	832.4	785.2	704.4	817.8	799.5	768.2	665.4	884.1	642.6	1,139.2
I. INFECTIVE AND PARASITIC DISEASES														
A 1 Tuberculosis of respiratory system	4.1	3.7	6.3	5.7	3.1	4.7	6.1	2.1	3.7	2.5	2.0	3.0	6.8	39.1
A 2 Tuberculosis of meninges and central nervous system	0.2	0.2	0.2	0.2	0.2	0.5	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1
A 3 Tuberculosis of intestines, peritoneum and mesenteric glands	0.1	*	0.2	0.2	0.2	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 4 Tuberculosis of bones and joints	*	*	*	*	*	0.1	0.1	*	*	0.1	0.1	0.1	0.1	0.1
A 5 Tuberculosis, all other forms	0.2	0.3	0.7	0.7	0.7	0.2	0.4	*	0.4	0.1	0.2	0.4	0.1	4.3
A 6 Congenital syphilis	*	*	*	*	*	0.2	0.1	*	*	0.1	0.1	0.1	0.1	0.1
A 7 Early syphilis	*	*	*	*	*	0.2	0.1	*	*	0.1	0.1	0.1	0.1	0.1
A 8 Tabes dorsalis	0.1	*	*	*	*	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 9 General paralysis of insane	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1
A 10 All other syphilis	0.7	0.7	0.4	1.0	0.4	0.7	0.9	0.4	0.7	1.0	0.5	0.9	0.1	0.1
A 11 Gonococcal infection	*	*	*	*	*	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 12 Typhoid fever	*	*	*	*	*	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 13 Paratyphoid fever and other Salmonella infections	*	0.1	*	*	*	0.1	0.1	*	0.1	0.2	0.2	0.2	0.2	0.1
A 14 Cholera	*	*	*	*	*	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 15 Brucellosis (undulant fever)	*	*	*	*	*	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 16 Dysentery, all forms	0.2	0.2	*	*	0.1	0.1	0.1	0.2	1.0	0.3	0.2	0.1	0.1	0.1
A 17 Scarlet fever	0.1	*	*	*	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 18 Streptococcal sore throat	0.1	0.1	0.2	0.2	0.1	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.4	4.3
A 19 Erysipelas	*	*	*	*	0.5	1.2	*	*	0.2	0.2	0.1	0.1	0.1	0.1
A 20 Septicaemia and pyaemia	0.3	0.4	0.9	0.9	0.5	1.2	*	0.4	0.4	0.5	0.5	0.4	0.4	0.1
A 21 Diphtheria	*	*	*	*	0.1	0.8	0.4	*	0.2	0.1	0.1	0.1	0.1	0.1
A 22 Whooping cough	0.4	0.2	1.1	1.1	0.4	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1
A 23 Meningococcal infections	0.4	0.1	0.2	0.2	0.4	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1
A 24 Plague	*	*	*	*	*	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 25 Leprosy	*	*	*	*	*	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 26 Tetanus	*	*	*	*	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 27 Anthrax	*	*	*	*	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
A 28 Acute poliomyelitis	0.5	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1
A 29 Acute infectious encephalitis	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.2	0.1	0.1	0.3	0.1	0.1	0.1
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	0.2	0.2	0.2	0.2	0.5	0.5	0.1	0.1	0.2	0.5	0.1	0.1	0.1	0.1

TABLE 18—DEATH RATES PER 100,000 POPULATION AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1961 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1960	1961												
	A 63 Diabetes mellitus	11.7													11.9	9.0	13.4	15.9	14.9	13.5	10.8	9.3	12.3	10.1	11.4	13.7	...
A 64 Avitaminosis and other deficiency states	0.5	0.5	0.4	1.0	0.8	0.8	0.4	0.4	0.3	0.3	0.5	0.7	...	...
A 65 Anaemias	1.8	2.0	2.2	3.8	2.2	2.2	2.3	1.7	1.5	2.7	1.6	1.7	...	4.3
A 66 Allergic disorders; all other endocrine, metabolic and blood diseases	4.8	5.1	4.1	6.7	7.1	5.5	5.9	4.3	4.1	6.4	4.4	5.6	6.8	...
V. MENTAL, PSYCHONEUROTIC, AND PERSONALITY DISORDERS														
A 67 Psychoses	2.6	2.6	1.5	7.6	3.1	2.0	3.4	2.7	1.1	1.4	1.2	1.8	...	4.3
A 68 Psychoneuroses and disorders of personality	1.3	1.0	0.2	2.9	1.6	1.0	1.2	1.3	0.2	0.9	0.2	0.2	...	...
A 69 Mental deficiency	0.7	0.8	0.2	2.9	0.9	0.5	0.6	1.0	0.3	0.3	0.9	1.4	...	...
A 70 Vascular lesions affecting central nervous system	0.6	0.7	1.3	1.9	0.5	0.5	1.6	0.4	0.5	0.2	0.1	0.1	...	4.3
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS														
A 70 Vascular lesions affecting central nervous system	96.0	93.5	88.9	132.9	125.8	94.5	70.8	108.4	100.4	83.6	83.9	104.2	82.0	60.9
A 71 Nonmeningococcal meningitis	86.6	83.9	78.4	127.1	117.4	86.1	58.5	100.0	93.4	73.8	75.7	95.1	54.7	21.7
A 72 Multiple sclerosis	1.0	1.2	0.4	...	1.6	0.8	1.3	1.1	0.4	1.0	0.9	1.0	13.7	30.4
A 73 Epilepsy	0.9	1.0	0.2	...	1.1	1.0	1.1	0.9	0.7	1.2	1.4	0.8	...	...
A 74 Inflammatory diseases of eye	1.6	1.7	1.5	1.9	1.5	1.3	2.6	1.2	1.2	1.6	1.7	0.9	6.8	...
A 75 Cataract	*	*	0.2	...	...	...	*	*	*	0.2	...	...	...	...
A 76 Glaucoma	*	*	...	...	...	...	*	*	*	...	...	...	...	...
A 77 Otitis media and mastoiditis	0.8	0.5	0.4	...	0.4	0.5	1.0	0.3	0.2	0.3	0.2	0.7	...	...
A 78 All other diseases of the nervous system and sense organs	5.1	5.3	5.7	3.8	3.8	4.7	6.2	4.9	4.4	5.4	4.1	5.6	6.8	8.7
VII. DISEASES OF THE CIRCULATORY SYSTEM														
A 79 Rheumatic fever	302.7	300.4	183.0	385.2	321.2	318.6	255.5	341.4	310.0	296.6	222.2	364.9	123.1	108.7
A 80 Chronic rheumatic heart disease	0.3	0.4	...	...	0.5	0.2	0.6	0.3	0.3	0.2	0.4	0.2	...	...
A 81 Arteriosclerotic and degenerative heart disease	7.8	8.0	9.4	5.7	7.6	6.4	7.6	7.7	7.8	9.6	9.0	9.6	...	8.7
A 82 Other diseases of heart	238.2	237.0	109.4	270.5	241.0	247.7	188.8	285.2	243.0	220.5	173.1	298.5	116.2	52.2
A 83 Hypertension with heart disease	14.0	11.5	21.8	13.4	17.1	12.4	11.6	8.8	12.0	17.7	12.2	10.9	...	26.1
A 83 Hypertension with heart disease	18.1	17.4	18.1	47.8	20.4	18.4	23.5	14.5	13.0	14.2	8.7	16.9	6.8	...

A 84 Hypertension without mention of heart	5.5	7.4	10.5	7.6	6.4	6.7	3.9	4.6	4.4	2.3	3.5	8.7
A 85 Diseases of arteries	17.7	18.0	34.4	24.2	24.9	15.0	17.8	21.5	25.0	14.3	19.9	8.7
A 86 Other diseases of circulatory system	3.1	3.1	0.9	2.9	2.3	1.7	3.2	7.7	5.0	2.1	5.3	13.0
VIII. DISEASES OF THE RESPIRATORY SYSTEM												
A 87 Acute upper respiratory infections	46.4	44.0	58.3	44.8	42.8	34.0	43.3	63.3	55.6	41.6	55.3	282.6
A 88 Influenza	0.7	0.7	0.9	0.4	0.3	0.7	0.6	0.7	0.8	0.6	1.4	13.0
A 89 Lobar pneumonia	3.1	2.9	7.0	5.7	2.8	3.8	4.4	2.0	1.5	4.2	3.3	60.9
A 90 Bronchopneumonia	3.4	2.8	3.1	3.8	4.2	1.2	3.1	6.3	4.5	2.9	3.3	17.4
A 91 Primary atypical, other and unspecified pneumonia	18.6	17.9	23.8	9.6	17.0	12.4	18.9	25.1	21.6	17.9	24.8	6.8
A 92 Acute bronchitis	8.1	7.1	10.3	27.7	8.5	3.6	7.2	11.0	8.5	8.2	8.8	134.8
A 93 Chronic and unqualified bronchitis	0.7	0.5	0.7	0.7	0.7	0.4	0.4	0.2	0.5	0.2	1.0	4.3
A 94 Empyema and abscess of lung	4.1	4.1	5.9	4.8	4.5	1.7	3.7	4.1	5.4	6.2	3.8	4.1
A 95 Encephalitis and adenoids	0.1	0.1	....	....	....	....	0.1	0.2	0.1	0.1	0.1	....
A 96 Pleurisy	0.5	0.4	....	....	0.1	0.3	0.4	0.5	0.1	0.2	0.7	....
A 97 All other respiratory diseases	0.2	0.2	0.2	1.0	0.1	0.3	0.1	0.3	0.1	0.4	0.1	....
	6.9	7.2	6.6	3.8	7.7	6.8	6.2	12.3	9.0	6.1	10.4	13.0
IX. DISEASES OF THE DIGESTIVE SYSTEM												
A 98 Diseases of teeth and supporting structures	30.3	28.9	18.6	22.0	23.4	21.2	28.6	30.0	28.4	28.3	27.3	82.6
A 99 Ulcer of stomach	0.1	0.1	....	....	2.0	2.5	2.7	2.4	1.8	0.1	0.2	....
A 100 Ulcer of duodenum	2.6	2.4	2.0	1.0	2.0	1.4	2.7	2.5	2.4	1.9	4.0	....
A 101 Gastritis and duodenitis	2.5	2.2	1.3	1.0	1.9	2.0	1.4	0.2	0.1	0.3	0.2	....
A 102 Appendicitis	0.1	0.2	0.9	1.9	0.8	0.9	0.9	1.1	1.1	0.9	0.9	4.3
A 103 Intestinal obstruction and hernia	5.0	5.1	3.3	5.7	6.9	3.5	4.8	5.6	4.6	5.4	4.3	4.3
A 104 Gastro-enteritis and colitis, except diarrhoea of the newborn	5.3	4.7	5.9	2.9	3.9	2.8	4.9	3.9	5.6	6.9	5.2	60.9
A 105 Cirrhosis of liver	6.2	5.9	2.0	3.8	4.6	3.5	6.2	7.0	5.3	2.5	4.7	7.0
A 106 Cholelithiasis and cholecystitis	2.9	3.0	0.4	2.9	3.0	3.0	3.0	2.8	3.4	4.0	3.9	4.3
A 107 Other diseases of digestive system	4.5	4.3	2.8	2.9	5.0	2.5	4.3	4.3	4.0	4.1	4.6	8.7
X. DISEASES OF THE GENITO-URINARY SYSTEM												
A 108 Acute nephritis	16.7	16.4	11.1	14.3	14.7	17.6	21.1	13.9	13.3	15.9	11.0	18.7
A 109 Chronic, other and unspecified nephritis	0.4	0.5	....	1.0	0.7	0.7	0.7	0.4	0.2	0.6	....	....
A 110 Infections of kidney	8.3	7.7	5.2	3.8	8.3	10.2	13.2	5.3	3.9	4.4	5.4	....
A 111 Calculi of urinary system	3.0	3.1	2.4	....	2.8	2.5	2.3	3.7	3.7	2.2	6.4	4.3
A 112 Hyperplasia of prostate	0.6	0.6	0.2	2.9	0.8	....	0.5	0.7	1.0	0.4	1.1	....
A 113 Diseases of breast	5.4	5.5	4.3	9.4	5.3	5.3	4.5	5.5	6.0	10.2	4.9	....
A 114 Other diseases of genito-urinary system	1.6	1.7	1.1	1.9	1.1	1.5	2.2	1.5	1.5	1.4	1.6	6.8
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERUM												
A 115 Sepsis of pregnancy, childbirth and the puerperium	44.9	46.0	70.6	35.2	48.2	64.9	42.5	55.8	25.0	23.1	25.9	179.2
A 116 Toxaemias of pregnancy and the puerperium	5.0	5.7	....	....	6.0	8.0	6.3	....	8.3	7.7	....	....
A 117 Haemorrhage of pregnancy and childbirth	8.8	7.1	32.1	....	5.2	6.0	8.2	8.6	....	2.6	....	....
	9.2	9.2	25.7	....	5.2	12.1	16.0	4.4	12.9	4.2	5.2	179.2

TABLE 18—DEATH RATES PER 100,000 POPULATION AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1961 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	North West Territories
	1960	1961												
A118 Abortion without mention of sepsis or toxæmia	1.0	1.7	.....	.....	.....	6.0	0.7	1.3	4.3	4.2	.....	5.2	.....	.....
A119 Abortion with sepsis	3.8	3.4	.....	.....	.....	.....	4.4	2.5	4.3	.....	.....	13.0	.....	.....
A120 Other complications of pregnancy, childbirth and the puerperium	17.1	18.9	12.8	35.2	10.3	18.1	27.7	19.7	25.8	8.3	10.3	2.6	.....	.....
XII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM	3.4	3.2	2.6	7.6	3.5	2.3	4.0	2.9	3.0	2.5	2.7	2.8	.....	4.3
A121 Infections of skin and subcutaneous tissue	0.4	0.3	0.4	0.1	0.1	0.2	0.5	0.2	0.2	0.4	0.3	0.2	.....	.....
A122 Arthritis and spondylitis	1.3	1.3	0.9	1.9	1.9	1.5	1.4	1.2	1.5	1.1	1.4	1.0	.....	.....
A123 Muscular rheumatism and rheumatism, unspecified	0.1	0.1	0.2	.....	.....	0.2	0.1	*	.....	.....	0.1	.....	.....	.....
A124 Osteomyelitis and periostitis	0.1	0.1	0.2	1.0	.....	.....	0.1	0.1	.....	0.2	0.1	.....	.....	.....
A125 Ankyrosis and acquired musculoskeletal deformities	0.1	0.1	0.2	.....	.....	.....	*	0.1	.....	.....	0.2	0.1	.....	.....
A126 All other diseases of skin and musculoskeletal system	1.5	1.3	0.7	3.8	1.5	0.5	1.8	1.3	1.3	0.8	0.7	1.4	.....	4.3
XIV. CONGENITAL MALFORMATIONS	15.1	15.5	21.4	17.2	16.8	16.7	17.2	14.7	15.0	14.3	16.8	9.9	6.8	26.1
A127 Spina bifida and meningocele	1.7	1.7	3.1	1.9	0.5	1.7	2.7	1.6	1.0	0.5	1.6	0.4	.....	.....
A128 Congenital malformations of circulatory system	6.7	6.5	7.0	6.7	7.5	7.9	6.4	6.3	7.4	7.3	7.4	5.5	6.8	8.7
A129 All other congenital malformations	6.8	7.2	11.4	8.6	8.8	7.2	8.1	6.8	6.6	6.4	7.9	4.1	.....	17.4
XV. CERTAIN DISEASES OF EARLY INFANCY	39.8	39.3	62.9	41.1	36.1	35.8	46.0	33.9	35.2	35.9	44.0	31.4	61.5	234.8
A130 Birth injuries	7.1	6.9	9.0	6.7	6.0	5.2	9.2	5.9	8.0	5.8	7.0	4.5	.....	.....
A131 Postnatal asphyxia and atelectasis	8.5	8.2	12.4	6.7	7.7	4.7	8.2	8.2	6.7	7.5	10.9	7.4	6.8	30.4
A132 Infections of the newborn	3.3	3.0	6.8	3.8	2.3	2.7	3.7	2.0	4.1	3.2	2.8	2.5	6.8	39.1
A133 Haemolytic disease of newborn	2.0	1.8	2.0	4.8	1.6	2.0	2.4	1.4	1.1	2.3	1.3	1.7	.....	.....
A134 All other defined diseases of early infancy	1.3	1.5	1.5	1.0	1.2	0.8	1.6	1.2	2.5	1.5	1.6	1.7	.....	8.7
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	17.6	17.9	31.2	18.2	17.2	20.4	20.8	15.3	12.7	15.3	20.5	13.6	41.0	156.5
XVI. SYMPTOMS, SENILITY AND ILL-DEFINED CONDITIONS	7.6	6.7	34.7	7.6	4.7	11.5	6.0	2.6	5.5	5.3	23.3	2.7	20.5	69.6
A136 Senility without mention of psychosis	3.3	2.7	20.7	2.9	2.3	8.9	2.2	0.9	2.8	2.6	5.9	1.4	13.7	30.4
A137 Ill-defined and unknown causes	4.3	3.9	14.0	4.8	2.4	2.7	3.8	1.7	2.7	2.7	17.3	1.3	6.8	39.1

EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)													
61.8	61.6	49.1	72.6	59.7	62.9	55.7	62.7	57.5	62.7	63.1	78.1	170.9	130.4
20.8	21.3	10.3	22.0	21.2	27.4	23.9	20.8	17.4	18.3	20.5	20.3	41.0	.....
20.3	20.7	10.3	22.0	21.0	25.8	23.4	20.2	16.7	17.4	20.0	19.8	41.0	.....
0.4	0.5	.....	.....	0.1	1.7	0.4	0.6	0.7	0.9	0.5	0.5	.....	.....
3.2	3.0	4.6	1.0	6.1	4.5	1.8	2.8	3.8	2.7	2.8	5.0	.....	21.7
1.6	1.6	3.7	.....	4.2	3.3	0.8	1.6	2.2	1.5	0.7	1.7	.....	13.0
0.1	0.1	.....	.....	0.3	.....	*	0.1	.....	.....	.....	0.6	.....	.....
1.4	1.3	0.9	1.0	1.0	1.2	1.0	1.1	1.6	1.2	2.1	2.7	.....	8.7
2.0	2.1	1.7	3.8	0.7	1.8	1.0	2.2	2.2	2.7	2.5	5.5	.....	.....
8.8	8.9	7.0	9.6	8.8	7.9	7.0	10.7	10.5	7.7	6.9	10.5	6.8	.....
1.3	1.2	0.4	.....	0.5	1.3	1.1	0.9	1.1	2.6	2.6	1.2	6.8	.....
3.3	3.3	2.6	16.2	5.3	3.8	2.8	2.8	2.4	4.6	3.7	4.6	6.8	4.3
0.3	0.2	0.2	1.0	0.3	0.5	0.3	0.1	0.3	.....	0.2	0.2	.....	.....
1.2	1.0	1.3	1.0	0.9	1.2	0.9	0.8	1.3	1.3	1.2	1.0	.....	4.3
4.9	4.6	6.6	4.8	4.7	3.5	5.3	3.6	3.1	3.2	4.4	7.2	6.8	21.7
7.1	7.3	10.5	6.7	5.7	5.5	5.9	7.7	6.6	8.1	8.0	9.1	54.7	65.2
52.8	52.9	45.2	65.9	54.3	57.5	50.0	52.4	48.7	51.2	52.9	64.7	123.1	117.4
7.6	7.5	3.7	6.7	5.2	5.0	4.6	8.8	7.6	10.2	8.9	11.8	34.2	13.0
1.4	1.2	0.2	0.3	0.3	1.1	1.4	1.2	1.1	1.4	1.5	13.7
■	■	0.1	0.2

*Indicates a rate less than 0.1

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TABLE 19—CERTAIN CAUSES OF DEATH BY NUMBERS AND RATES FOR EACH YEAR OF THE LAST DECENNAL PERIOD

CAUSE OF DEATH	1961		1960		1959		1958		1957		1956		1955		1954		1953		1952	
	Number of Deaths	Rate per 100,000	Number of Deaths	Rate per 100,000	Number of Deaths	Rate per 100,000	Number of Deaths	Rate per 100,000	Number of Deaths	Rate per 100,000	Number of Deaths	Rate per 100,000	Number of Deaths	Rate per 100,000	Number of Deaths	Rate per 100,000	Number of Deaths	Rate per 100,000	Number of Deaths	Rate per 100,000
Diseases of the Heart	2710	203	2800	218	2581	204	2431	202	2371	204	2298	204	2420	227	2245	225	2274	227	2247	231
Cancer	1360	102	1439	112	1357	109	1304	108	1262	108	1251	110	1234	116	1164	112	1129	112	1072	110
Diseases of the Arteries	249	17	268	20	266	21	267	22	254	21	173	15	173	16	135	14	148	14	136	14
Violent Deaths (suicide excepted)	722	54	713	55	679	54	708	58	640	55	667	59	672	63	523	59	667	66	589	60
Pneumonia (all forms)	386	28	335	26	346	27	338	28	352	30	325	28	326	30	253	24	324	32	298	30
Pulmonary Tuberculosis	27	1	27	2	37	2	35	2	60	5	36	3	64	6	45	4	51	5	91	9
Influenza	17	1	28	2	36	2	21	1	135	11	35	3	44	4	14	1	33	3	47	4
Nephritis	60	4	54	4	49	3	59	4	60	4	77	6	62	4	79	7	108	10	74	7
Appendicitis	12	1	11	1	11	1	11	1	15	1	8	8	9	9	12	1	15	1	15	1
Suicides	129	9	119	9	117	9	111	9	105	8	115	10	96	9	83	8	72	7	94	9
Cerebral Haemorrhage	1008	75	934	72	952	76	930	77	939	80	806	71	856	80	842	81	851	84	727	74
Diabetes Mellitus	134	10	144	11	136	10	119	9	141	12	98	8	123	11	112	10	99	9	104	10
Diarrhoea and Enteritis	69	5	67	5	56	4	69	5	59	5	64	5	54	5	69	6	47	4	77	7
Fueral Causes	9	1	3	1	5	1	2	1	12	1	14	1	15	1	11	1	12	1	15	1
Whooping Cough	1	1	1	1	1	1	1	1	4	4	3	3	1	1	7	7	12	12	12	12
Scarlet Fever	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Diphtheria	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Typhoid and Paratyphoid	4	4	6	4	1	3	2	6	6	3	2	2	2	2	2	2	3	3	1	1
Measles	7	7	16	16	14	14	8	16	16	8	2	2	24	2	6	6	8	8	7	7
Pollomyelitis and Infectious Encephalitis	7	7	16	16	14	14	8	16	16	8	9	9	8	2	28	2	108	10	79	79

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TABLE 24—LIVE BIRTHS OF INDIANS BY MONTHS, ALBERTA, 1961

MONTHS												
Total	January	February	March	April	May	June	July	August	September	October	November	December
2050	162	170	179	188	194	147	173	176	179	167	138	177

TABLE 25—LIVE BIRTHS OF TREATY INDIANS BY MONTHS, ALBERTA, 1961

MONTHS												
Total	January	February	March	April	May	June	July	August	September	October	November	December
1197	89	88	105	107	103	101	104	105	101	110	81	103

TABLE 26—LEGITIMATE AND ILLEGITIMATE BIRTHS OF INDIANS
(EXCLUSIVE OF STILLBIRTHS) ALBERTA, 1961

Total Births			Legitimate			Illegitimate		
Total	Male	Female	Total	Male	Female	Total	Male	Female
2050	1058	992	1332	673	659	718	385	333

TABLE 27—LEGITIMATE AND ILLEGITIMATE BIRTHS OF TREATY INDIANS
(EXCLUSIVE OF STILLBIRTHS) ALBERTA, 1961

Total Births			Legitimate			Illegitimate		
Total	Male	Female	Total	Male	Female	Total	Male	Female
1197	602	595	772	377	395	425	225	200

TABLE 28—LIVE BIRTHS OF INDIANS BY AGE OF PARENTS, ALBERTA, 1961

AGE OF MOTHER (years)	AGE OF FATHER										Total born to married mothers	Born to un- married mothers	Born to all mothers					
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64				65 and over	Not stated			
14 years	3	3
15 years	7	9
16 years	31	43
17 years	44	67
18 years	61	103
19 years	64	114
20 years	74	144
21 years	72	126
22 years	77	126
23 years	81	124
24 years	87	100
25 years	83	92
26 years	69	101
27 years	65	100
28 years	69	92
29 years	60	82
30 years	62	77
31 years	64	80
32 years	54	68
33 years	37	47
34 years	37	48
35 years	34	39
36 years	39	47
37 years	35	42
38 years	34	40
39 years	32	43
40 years	27	27
41 years	18	23
42 years	9	14
43 years	7	9
44 years	8	10
45 years	3	3
46 years	5	5
47 years
48 years
49 years
50 and over
Not stated	1	1
Total fathers	13	214	339	303	193	121	79	35	19	8	1	7	1332	718	2050			

DIVISION OF VITAL STATISTICS

TABLE 29—LIVE BIRTHS OF TREATY INDIANS BY AGE OF PARENTS,
ALBERTA, 1961

AGE OF MOTHER (years)	AGE OF FATHER										Total born to married mothers	Born to un- married mothers	Born to all mothers				
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64				65 and over	Not stated		
14 years	3	3
15 years	4	4
16 years	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	20
17 years	2	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	26
18 years	2	10	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22	31
19 years	2	15	4	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	34	28
20 years	2	16	14	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	44	40
21 years	1	27	15	1	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	39	31
22 years	1	19	11	5	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	42	32
23 years	13	20	7	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	24
24 years	5	14	8	3	3	.....	.....	.....	.....	.....	.....	.....	.....	34	25
25 years	2	16	15	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	37	21
26 years	1	17	17	3	2	1	.....	.....	.....	.....	.....	.....	.....	41	14
27 years	4	17	14	2	2	1	.....	.....	.....	.....	.....	.....	.....	39	23
28 years	1	10	19	2	1	1	.....	.....	.....	.....	.....	.....	.....	34	16
29 years	1	11	9	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	36	11
30 years	3	20	11	2	2	1	.....	.....	.....	.....	.....	.....	.....	38	11
31 years	4	20	8	2	2	1	.....	.....	.....	.....	.....	.....	.....	38	13
32 years	4	9	14	4	4	1	.....	.....	.....	.....	.....	.....	.....	34	11
33 years	1	8	14	4	4	1	.....	.....	.....	.....	.....	.....	.....	32	6
34 years	5	7	6	4	1	.....	.....	.....	.....	.....	.....	.....	21	5
35 years	1	9	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	17	5
36 years	1	2	10	8	5	.....	.....	.....	.....	.....	.....	.....	28	3
37 years	1	3	3	4	6	.....	.....	.....	.....	.....	.....	.....	18	4
38 years	2	3	10	3	3	.....	.....	.....	.....	.....	.....	22	2
39 years	2	9	6	.....	.....	.....	.....	.....	.....	.....	18	4
40 years	1	3	6	1	.....	.....	.....	.....	.....	.....	13	.....
41 years	1	1	4	1	.....	.....	.....	.....	.....	.....	7	5
42 years	3	.....	.....	.....	.....	.....	.....	.....	.....	4	4
43 years	2	1	1	.....	.....	.....	.....	.....	.....	4	2
44 years	1	2	1	.....	.....	.....	.....	.....	.....	6	1
45 years	1	1	.....	.....	.....	.....	.....	.....	3	.....
46 years	2	.....	.....	.....	.....	.....	.....	4	.....
47 years
48 years	1	.....	.....	.....	.....	.....	1	.....
49 years
50 and over
Not stated
Total fathers	8	124	193	172	114	72	45	19	14	4	1	6	772	425	1197		

TABLE 30—BIRTHS BY PLACE OF OCCURRENCE AND PLACE OF RESIDENCE, 1961

PLACE OF OCCURRENCE	PLACE OF RESIDENCE													Total occurrence
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	U.S.A.		Other
Total (residence)	15,591	2,838	19,382	16,590	137,174	157,663	23,288	23,994	38,914	38,591	558	1,117	540	34
Newfoundland	15,522	1	3	3	2	8	4	1	1	1	.....	.....	3	.....
Prince Edward Island	2,825	2,810	4	4	1	1	3	1	3	1	.....	.....	1	.....
Nova Scotia	19,409	16	19,299	24	5	8	3	1	1	1	.....	.....	9	.....
New Brunswick	16,829	9	33	16,437	255	11	4	1	1	1	.....	.....	78	.....
Quebec	135,934	18	10	59	135,645	150	4	13	18	12	.....	.....	35	5
Ontario	158,813	2	27	19	1,121	157,229	34	184	25	16	.....	.....	308	23
Manitoba	23,510	2	.....	2	5	83	23,110	23,681	258	19	.....	.....	45	.....
Saskatchewan	24,061	.....	1	.....	1	13	80	87	38,500	86	.....	.....	12	.....
Alberta	38,762	.....	3	.....	4	13	6	15	71	38,480	.....	.....	39	.....
British Columbia	38,594	.....	.....	.....	3	.....	.....	1	1	.....	.....	.....	.....	.....
Yukon	559	.....	.....	.....	.....	.....	.....	.....	.....	.....	549	.....	.....	.....
Northwest Territories	1,034	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,006	.....	.....
United States	401	.....	2	41	132	136	42	7	12	24	.....	.....	.....	.....

DIVISION OF VITAL STATISTICS

TABLE 31—LIVE BIRTHS AND LIVE BIRTHS IN HOSPITAL BY OCCURRENCE AND RESIDENCE FOR CENSUS DIVISIONS, ALBERTA, 1961

CENSUS DIVISIONS	TOTAL BIRTHS				BIRTHS IN HOSPITALS			
	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere
ALBERTA	38,762	38,914	262	414	38,200	38,351	260	411
Division No. 1	1,005	1,016	42	53	991	1,003	41	53
Division No. 2	2,312	2,192	183	63	2,259	2,135	183	59
Division No. 3	384	938	54	108	857	911	54	108
Division No. 4	353	392	37	76	341	381	36	76
Division No. 5	683	918	43	278	670	903	43	276
Division No. 6	9,749	9,507	411	169	9,712	9,471	409	168
Division No. 7	1,028	1,071	89	132	1,021	1,062	89	130
Division No. 8	2,263	2,248	152	137	2,239	2,224	151	136
Division No. 9	415	468	40	93	392	447	38	93
Division No. 10	1,358	1,580	146	368	1,352	1,573	146	367
Division No. 11	13,220	12,530	957	267	13,199	12,507	956	264
Division No. 12	1,612	1,625	104	117	1,519	1,537	98	116
Division No. 13	1,016	1,102	196	282	993	1,079	195	281
Division No. 14	416	685	15	284	402	673	12	283
Division No. 15	2,448	2,642	37	231	2,253	2,445	35	227

TABLE 32—LIVE BIRTHS AND LIVE BIRTHS IN HOSPITAL BY OCCURRENCE AND RESIDENCE FOR URBAN PLACES OF 1,000 POPULATION AND OVER, ALBERTA, 1961

CITY, TOWN OR VILLAGE	Total Live Births				Live Births in Hospitals			
	Total by Occurrence	Total by Residence	By Occurrence: Residence Elsewhere	By Residence: Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence: Residence Elsewhere	By Residence: Occurrence Elsewhere
Athabasca	195	50	152	7	194	50	151	7
Barrhead	285	74	218	7	285	73	218	6
Beverly	2	330	2	330	2	330	2	330
Blairmore		44		44		44		44
Bonnyville	182	60	128	6	182	60	128	4
Bow Island	114	31	89	6	114	31	89	6
Bowness	1	274		273		273		273
Brooks	260	79	183	2	260	79	183	2
Calgary	9,088	7,556	1,645	113	9,068	7,542	1,639	113
Camrose	437	184	263	10	437	184	263	10
Cardston	168	81	94	7	168	81	94	7
Claresholm	80	37	46	3	78	37	44	3
Coaldale	88	57	57	26	88	57	57	26
Cold Lake	225	45	186	6	225	45	186	6
Coleman		44		44		44		44
Devon	32	34	14	16	32	34	14	16
Didsbury	157	33	128	4	157	33	128	4
Drayton Valley	336	206	171	41	336	206	171	41
Drumheller	264	103	167	6	264	103	167	6
Edmonton	12,516	8,572	4,033	89	12,508	8,566	4,030	88
Edson	218	116	138	36	218	116	138	36
Fairview	175	51	133	9	174	51	132	9
Forest Lawn		431		431		429		429
Fort Macleod	126	68	63	5	124	67	62	5
Fort Saskatchewan		91		91		91		91
Grande Prairie	686	363	332	9	686	363	332	9
Hanna	162	73	95	6	161	73	94	6
High Prairie	290	70	228	8	289	69	228	8
High River	237	47	197	7	237	47	197	7
Innisfail	216	81	144	9	216	80	144	8
Jasper Place		1,142		1,140		1,140		1,140
Lacombe	267	97	185	15	267	97	185	15
Leduc		67		67		67		67
Lethbridge	1,388	939	471	22	1,386	937	471	22
Lloydminster		118		118		118		118
Magrath	82	30	56	4	82	30	56	4
McLennan	176	29	150	3	176	29	150	3
McMurray	58	19	40	1	58	19	40	1
Medicine Hat	879	645	247	13	876	642	247	13
Nanton		30		30		30		30
Olds	212	86	133	7	212	86	133	7
Peace River	308	153	164	9	308	153	164	9
Pincher Creek	249	123	137	11	249	123	137	11
Ponoka	222	138	94	10	222	138	94	10
Raymond	69	28	44	3	68	28	43	3
Redcliff		57		57		57		57
Red Deer	888	648	273	33	888	648	273	33
Redwater		36		36		36		36
Rocky Mountain House	221	115	112	6	219	113	112	6
St. Albert		193		193		193		193
St. Paul	286	116	183	13	286	116	183	13
Stettler	222	115	127	20	222	115	127	20
Stony Plain		41		41		41		41
Sylvan Lake		50		50		50		50
Taber	309	98	217	6	309	98	217	6
Three Hills	172	52	120		172	52	120	
Vegreville	144	52	98	6	144	52	98	6
Vermilion	155	65	94	4	155	65	94	4
Vulcan	110	31	82	3	110	31	82	3
Wainwright	216	108	121	13	216	108	121	13
Westlock	513	81	240	8	513	81	240	8
Wetaskiwin	314	153	173	12	314	153	173	12

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TABLE 33—LIVE BIRTHS BY MONTH, ALBERTA, 1961

	Total	January	February	March	April	May	June	July	August	September	October	November	December
Province of Alberta	38,914	3,109	2,970	3,365	3,166	3,458	3,329	3,482	3,300	3,299	3,146	3,027	3,263
Male	19,889	1,569	1,456	1,689	1,633	1,825	1,699	1,791	1,683	1,686	1,641	1,570	1,647
Female	19,025	1,540	1,514	1,676	1,533	1,633	1,630	1,691	1,617	1,613	1,505	1,457	1,616

TABLE 34—LIVE BIRTHS FOR CENSUS DIVISIONS BY TYPE OF ATTENDANCE, ALBERTA, 1961

CENSUS DIVISIONS	Total	Attended by			
		Physician	Nurse	Midwife	Unattended and Not Stated
ALBERTA	38,914	38,365	186	227	136
Division No. 1	1,016	1,006	.....	10	.....
Division No. 2	2,192	2,143	4	34	11
Division No. 3	938	915	1	20	2
Division No. 4	392	384	.....	4	4
Division No. 5	918	862	44	8	4
Division No. 6	9,507	9,497	.....	7	3
Division No. 7	1,071	1,062	.....	5	4
Division No. 8	2,248	2,229	2	11	6
Division No. 9	468	449	1	17	1
Division No. 10	1,580	1,576	.....	1	3
Division No. 11	12,530	12,520	.....	7	3
Division No. 12	1,625	1,544	36	20	25
Division No. 13	1,102	1,081	5	7	9
Division No. 14	685	680	.....	2	3
Division No. 15	2,642	2,417	93	74	58

TABLE 35—LIVE BIRTHS IN INCORPORATED URBAN PLACES OF 1,000 POPULATION AND OVER, BY TYPE OF ATTENDANCE, ALBERTA, 1961

CITY, TOWN OR VILLAGE	Total	Attended by			
		Physician	Nurse	Midwife	Unattended and Not Stated
Athabasca	50	50			
Barrhead	74	73		1	
Beverly	330	330			
Blairmore	44	44			
Bonnyville	60	60			
Bow Island	31	31			
Bowness	274	274			
Brooks	79	79			
Calgary	7,556	7,554			2
Camrose	184	184			
Cardston	81	81			
Claresholm	37	37			
Coaldale	57	57			
Cold Lake	45	45			
Coleman	44	44			
Devon	34	34			
Didsbury	33	33			
Drayton Valley	206	206			
Drumheller	103	103			
Edmonton	8,572	8,571			1
Edson	116	116			
Fairview	51	51			
Forest Lawn	431	431			
Fort Macleod	68	68			
Fort Saskatchewan	91	91			
Grande Prairie	363	363			
Hanna	73	73			
High Prairie	70	70			
High River	47	47			
Innisfail	81	81			
Jasper Place	1,142	1,142			
Lacombe	97	97			
Leduc	67	67			
Lethbridge	939	939			
Lloydminster	118	118			
Magrath	30	30			
McLennan	29	29			
McMurray	19	19			
Medicine Hat	645	645			
Nanton	30	30			
Olds	86	86			
Peace River	153	153			
Pincher Creek	123	123			
Ponoka	138	138			
Raymond	28	28			
Redcliff	57	57			
Red Deer	648	648			
Redwater	36	36			
Rocky Mountain House	115	115			
St. Albert	193	193			
St. Paul	116	116			
Stettler	115	115			
Stony Plain	41	41			
Sylvan Lake	50	50			
Taber	98	98			
Three Hills	52	52			
Vegreville	52	52			
Vermilion	65	65			
Vulcan	31	31			
Wainwright	108	108			
Westlock	81	81			
Wetaskiwin	153	153			

TABLE 41—MARRIAGES BY MONTH OF MARRIAGE, 1961, ALBERTA

Total	10,474
January	438
February	599
March	483
April	936
May	784
June	1,139
July	1,178
August	1,096
September	1,094
October	963
November	919
December	845

TABLE 43—MARRIAGES, MARITAL STATUS OF BRIDEGROOM BY STATUS OF BRIDE, ALBERTA, 1961

	Total Marriages	MARRIAGES BETWEEN								
		Bachelors and			Widowers and			Div'ced Men and		
		Spinsters	Widows	Divorced Women	Spinsters	Widows	Divorced Women	Spinsters	Widows	Divorced Women
Alberta	10,474	8,816	235	426	105	194	65	345	105	183

TABLE 44—MARRIAGES, MARITAL STATUS BY AGE OF BRIDEGROOM, 1961

AGES	MARITAL STATUS			
	Total	Bachelors	Widowers	Divorced Men
Under 20 years	695	694	1	20
20 - 24 years	4,867	4,842	5	115
25 - 29 years	2,561	2,435	11	136
30 - 34 years	1,025	867	22	126
35 - 39 years	468	315	27	81
40 - 44 years	229	127	21	61
45 - 49 years	200	94	45	44
50 - 54 years	116	37	35	30
55 - 59 years	105	32	43	14
60 - 64 years	73	16	43	4
65 - 69 years	63	11	48	2
70 - 74 years	43	5	36	2
75 and over	29	2	27	2
Not stated .....	.....	.....	.....	.....
Total	10,474	9,477	364	633

TABLE 45—MARRIAGES, MARITAL STATUS BY AGE OF BRIDE, 1961

AGES	MARITAL STATUS			
	Total	Spinsters	Widows	Divorced Women
Under 20 years	3,817	3,814	.....	3
20 - 24 years	4,056	3,926	17	113
25 - 29 years	1,128	931	27	170
30 - 34 years	484	304	44	136
35 - 39 years	325	153	70	102
40 - 44 years	188	65	62	61
45 - 49 years	177	39	89	49
50 - 54 years	99	16	56	27
55 - 59 years	90	8	72	10
60 - 64 years	46	4	40	2
65 - 69 years	36	5	30	1
70 - 74 years	15	1	14	.....
75 and over	13	.....	13	.....
Not stated .....	.....	.....	.....	.....
Total	10,474	9,266	534	674

TABLE 46—MARRIAGES, BIRTHPLACE OF GROOM BY BIRTHPLACE OF BRIDE, ALBERTA, 1961

BIRTHPLACE OF GROOM	BIRTHPLACE OF BRIDE														Other					
	CANADA															United States	Asia	Europe	British Isles and Possessions	
	Total Grooms	Total	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories						Province Unspecified
Canada	8,400	7814	7	11	61	41	61	226	255	991	5687	288	4	12	245	244	9	85	3	
Newfoundland	25	23	2	1	1	1	2	2	2	4	12	1	1	1	1	2	2	2	2	3
Prince Edward Island	24	22	1	3	2	1	1	2	2	2	10	6	1	1	2	1	1	2	3	1
Nova Scotia	89	82	13	1	5	5	1	5	4	11	42	6	1	2	2	2	4	2	3	1
New Brunswick	57	52	1	1	2	2	1	2	4	10	30	9	1	1	1	4	7	3	3	1
Quebec	328	111	1	1	8	5	8	46	13	14	70	9	5	7	7	23	1	16	1	1
Ontario	359	359	1	4	2	2	4	36	40	40	210	10	10	10	21	23	1	12	1	1
Manitoba	352	352	1	3	3	3	4	26	33	36	200	19	19	19	15	11	1	12	1	1
Saskatchewan	1,317	1,333	1	5	3	3	24	48	48	312	708	39	39	39	32	35	4	4	4	2
Alberta	5,700	5,958	3	3	37	25	112	132	132	521	4,386	168	4	8	130	151	1	49	2	2
British Columbia	307	279	1	1	3	1	9	9	10	29	186	38	1	2	16	8	2	2	2	2
Yukon	2	2	1	1	1	1	1	1	1	2	5	1	1	1	1	1	1	1	1	1
Northwest Territories	7	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Province unspecified	350	237	1	1	2	4	15	11	11	36	146	14	14	14	75	23	13	13	2	2
British Isles and possessions	1,392	559	9	9	2	2	14	25	25	92	382	20	20	2	70	746	1	16	1	1
Europe	46	15	3	2	4	4	6	8	8	22	130	5	5	5	2	1	27	70	1	1
Asia	277	180	3	1	1	1	1	1	1	2	4	1	1	1	17	9	1	1	1	1
United States	9	8	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1
Other	10,474	8813	10	11	80	47	80	262	299	1145	6526	334	4	15	409	1023	37	185	7	7

TABLE 48—STILLBIRTHS BY SEX AND PERIOD OF GESTATION, ALBERTA, 1961

PERIOD OF GESTATION	Male	Female
28 weeks	13	8
29 weeks	6	5
30 weeks	10	10
31 weeks	5	8
32 weeks	9	11
33 weeks	15	9
34 weeks	5	14
35 weeks	6	14
36 weeks	20	20
37 weeks	13	8
38 weeks	15	15
39 weeks	12	15
40 weeks	33	39
41 weeks	8	8
42 weeks	3	10
43 weeks	1	2
44 weeks	.....	1
45 weeks	.....	.....
46 weeks	.....	.....
47 weeks	.....	.....
48 weeks	.....	.....
Not stated	.....	1
Total	174	198

TABLE 49—RATIO OF MALE TO FEMALE BIRTHS AND OF BIRTHS TO DEATHS

Year	Births of Males to 1,000 Births of Females	Ratio of Births to Deaths	Year	Births of Males to 1,000 Births of Females	Ratio of Births to Deaths
1905	1.059	3.13	1934	1.032	3.04
1906	1.094	2.07	1935	1.055	2.81
1907	1.075	2.96	1936	1.049	2.57
1908	1.077	2.73	1937	1.019	2.38
1909	1.086	2.59	1938	1.046	2.70
1910	1.065	2.69	1939	1.046	2.85
1911	1.103	2.43	1940	1.033	2.79
1912	1.094	2.43	1941	1.054	2.71
1913	1.053	2.67	1942	1.058	3.02
1914	1.081	3.30	1943	1.041	2.96
1915	1.000	3.74	1944	1.060	3.06
1916	1.063	3.29	1945	1.061	3.08
1917	1.061	3.25	1946	1.036	3.36
1918	1.069	1.88	1947	1.061	3.76
1919	1.074	2.56	1948	1.049	3.44
1920	1.055	2.92	1949	1.051	3.52
1921	1.055	3.32	1950	1.052	3.74
1922	1.034	3.06	1951	1.039	3.76
1923	1.072	3.13	1952	1.058	3.95
1924	1.036	2.97	1953	1.063	4.10
1925	1.036	2.97	1954	1.073	4.60
1926	1.053	2.80	1955	1.066	4.31
1927	1.065	2.94	1956	1.060	4.48
1928	1.064	2.75	1957	1.055	4.32
1929	1.042	2.71	1958	1.064	4.47
1930	1.027	3.21	1959	1.056	4.49
1931	1.075	3.25	1960	1.056	4.38
1932	1.052	3.08	1961	1.045	4.39
1933	1.053	3.01			

DIVISION OF VITAL STATISTICS

TABLE 50—DIVORCES AND NULLITIES, BY JUDICIAL DISTRICTS
FOR THE YEAR 1961, ALBERTA

JUDICIAL DISTRICTS	DIVORCES			NULLITIES		
	Number of Divorces	Granted to Husband	to Granted Wife	Number of Nullities	Granted to Husband	to Granted Wife
Edmonton	478	179	299	5	...	5
Calgary	447	152	295	10	3	7
Lethbridge	41	14	27	...	...	...
Medicine Hat	20	13	7	1	...	1
Peace River	7	4	3	...	...	...
Grande Prairie	6	2	4	...	...	...
Hanna	1	1	...	...	...	...
Red Deer	25	7	18	...	...	...
Drumheller	3	1	2	...	...	...
Fort Macleod	4	3	1	...	...	...
Wetaskiwin	6	1	5	1	...	1
Vegreville	1	1	...	...	...	...
Total	1039	378	661	17	3	14

TABLE 51—DIVORCES AND NULLITIES IN ALBERTA SINCE THE PASSING
OF THE ACT

YEAR	Granted to Husband	Granted to Wife	Total
1919	3	3	6
1920	74	26	100
1921	53	37	90
1922	80	49	129
1923	57	32	89
1924	66	53	119
1925	59	42	101
1926	79	75	154
1927	83	66	149
1928	91	84	175
1929	77	71	148
1930	64	87	151
1931	69	87	156
1932	68	81	149
1933	56	79	135
1934	62	106	168
1935	74	135	209
1936	74	135	209
1937	102	139	241
1938	105	162	267
1939	104	163	267
1940	119	154	273
1941	135	176	311
1942	179	201	380
1943	190	223	413
1944	245	243	488
1945	302	273	575
1946	494	480	974
1947	404	478	882
1948	302	357	659
1949	262	332	594
1950	249	311	560
1951	255	334	589
1952	239	391	630
1953	228	375	603
1954	224	384	608
1955	233	394	627
1956	278	410	688
1957	317	409	726
1958	295	457	752
1959	343	509	852
1960	399	566	965
1961	381	675	1056

TABLE 52—POPULATION, BIRTHS, MARRIAGES, DEATHS AND RATES FOR THE YEARS 1905 - 1961

Year	Population	Number of Births	Birth Rate	Number of Marriages	Marriage Rate	Number of Deaths	Death Rate	Infantile Death Rate per 1,000 Births	Maternal Death Rate per 1,000 Births	Natural Increase
1905	185,000	421	20.41	187	6.77	114	7.36	90.00	.....	13.04
1906	236,000	3,003	20.05	1,907	8.08	1,578	6.68	100.27	63.3	13.36
1907	286,000	4,732	22.45	2,032	7.63	2,188	8.22	126.57	60.2	14.22
1908	331,000	5,973	22.91	2,384	7.92	2,662	8.81	.....	.....	14.07
1909	306,000	6,897	24.49	3,086	9.18	3,526	10.49	129.49	86.3	14.00
1910	374,000	8,321	23.56	3,630	9.70	3,618	9.67	134.46	87.5	13.88
1911	400,000	8,813	25.71	4,429	11.07	4,252	10.58	124.75	82.6	13.13
1912	429,000	11,871	28.47	5,053	12.12	4,432	10.63	120.47	70.7	17.84
1913	429,000	13,485	30.75	4,623	10.39	4,417	9.32	100.54	61.3	21.33
1914	459,000	13,452	28.99	4,202	9.96	3,588	7.18	97.9	61.9	18.96
1915	480,000	13,451	27.87	4,400	9.18	3,588	7.48	97.9	61.9	18.96
1916	480,000	13,451	27.87	4,400	9.18	3,588	7.48	97.9	61.9	18.96
1917	523,000	13,866	27.91	4,048	8.53	4,047	8.09	87.30	62.8	18.92
1918	522,000	14,130	27.06	4,048	8.53	4,047	8.09	87.30	62.8	18.92
1919	522,000	14,130	27.06	4,048	8.53	4,047	8.09	87.30	62.8	18.92
1920	565,000	16,565	26.72	4,718	9.93	7,924	13.86	107.10	55.1	11.86
1921	588,000	16,414	26.72	5,110	8.24	5,507	9.33	110.30	64.4	14.62
1922	592,000	16,163	26.44	5,661	8.24	5,675	9.15	93.70	83.8	17.57
1923	595,000	15,153	25.75	4,272	6.99	4,940	8.39	85.65	72.4	19.50
1924	597,000	14,598	24.74	4,177	6.99	5,281	8.62	91.93	66.8	18.75
1925	602,000	15,014	25.02	4,160	7.50	4,843	8.06	90.54	55.0	18.75
1926	608,000	14,455	23.79	4,363	7.27	4,907	8.30	82.40	61.8	16.42
1927	623,000	14,897	24.03	4,407	7.40	4,717	7.86	72.90	57.6	16.16
1928	658,000	15,692	24.79	4,707	7.58	5,156	8.49	81.63	58.2	15.31
1929	684,000	16,924	26.19	5,776	9.12	5,059	8.16	74.51	63.8	15.87
1930	708,000	17,649	26.74	6,004	9.29	6,699	9.00	76.50	67.5	15.79
1931	732,000	17,252	23.57	5,334	8.08	6,239	9.65	77.40	72.6	16.54
1932	740,000	16,990	22.96	5,142	7.02	5,396	8.33	63.57	64.6	18.41
1933	748,000	16,123	21.53	5,054	6.83	5,302	7.24	69.38	50.4	16.32
1934	756,000	16,236	21.33	5,389	7.13	5,521	7.46	58.68	37.7	13.20
1935	770,000	16,236	21.10	5,389	7.07	5,521	7.07	59.10	37.7	13.20
1936	779,782	15,766	21.0	6,010	7.87	5,739	6.93	57.89	46.6	14.01
1937	778,000	15,903	20.4	6,020	7.8	5,739	6.93	57.89	42.6	14.01
1938	783,000	15,891	20.3	6,345	8.2	6,147	8.0	60.0	57.6	12.5
1939	789,000	16,470	20.9	6,963	8.9	6,261	8.0	63.0	48.4	12.4
1940	796,169	17,359	21.8	7,838	9.9	6,871	7.5	51.0	42.8	12.8
1941	805,000	18,317	22.7	8,470	11.0	7,589	7.3	46.0	35.8	13.6
1942	792,000	18,317	22.7	8,470	11.0	7,589	7.3	46.0	39.7	14.1
1943	818,000	19,290	24.3	9,034	11.2	8,203	7.8	48.0	31.2	13.7
1944	826,000	19,373	24.3	7,771	9.8	6,985	8.0	51.0	23.5	15.2
1945	826,330	19,959	24.1	7,259	8.9	6,091	7.6	38.0	23.5	15.2
1946	822,000	22,184	24.1	7,259	8.9	7,345	7.6	30.0	27.0	22.4
1947	846,000	24,671	27.6	7,310	8.8	6,524	8.2	42.0	16.0	16.1
1948	871,000	24,075	28.5	8,797	10.7	6,601	7.8	46.0	24.1	16.0
1949	871,000	24,075	28.5	8,797	10.7	6,601	7.8	46.0	18.9	19.3
1950	895,000	25,625	28.7	9,037	10.4	6,543	8.0	42.5	12.0	22.0
1951	938,501	27,003	28.7	9,304	10.4	6,987	8.0	33.0	17.4	20.2
1952	1,070,000	29,062	30.9	9,514	9.8	6,853	7.6	33.0	7.4	21.0
1953	1,093,000	29,062	30.9	9,514	9.8	6,853	7.6	33.0	5.6	23.1
1954	1,066,000	34,357	32.2	10,126	10.1	7,167	7.6	30.0	6.7	23.1
1955	1,123,116	34,357	32.2	9,960	9.6	7,520	7.5	26.0	3.3	22.3
1956	1,160,000	35,719	30.8	9,965	9.2	7,956	7.5	26.0	4.0	24.2
1957	1,201,000	36,842	30.7	10,117	8.7	8,255	6.9	25.0	4.0	24.2
1958	1,243,000	38,080	30.6	10,186	8.5	8,237	7.1	25.0	4.6	23.7
1959	1,283,000	39,009	30.4	10,402	8.4	8,481	6.8	24.0	3.7	23.8
1960	1,331,944	38,914	29.2	10,482	8.2	8,888	6.9	26.2	1.8	23.5
1961	.....	.....	.....	10,474	7.9	8,863	6.7	27.0	2.3	25.5

